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# **Trends and Developments in Warsaw Pact Theater Forces, 1985-2000**

**National Intelligence Estimate**

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**NIE 11-14-85**  
**September 1985**

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**TRENDS AND DEVELOPMENTS  
IN WARSAW PACT THEATER  
FORCES, 1985-2000**

Information available as of 13 June 1985 was used  
in the preparation of this Estimate.

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**SCOPE NOTE**

NIE 11-14-85 is intended to forecast the major trends in Soviet and non-Soviet Warsaw Pact general purpose forces through the year 2000. It answers the question: Where are the Warsaw Pact general purpose forces going and why?

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## KEY JUDGMENTS

The Soviets are determined to maintain the war-winning capabilities of their general purpose offensive forces through the remainder of this century. They plan to do so despite NATO's programed high-technology antiarmor and antiair improvements. They are prepared to make whatever adjustments are necessary in their equipment, their combined-arms organizations, their operational concepts, and their command structures and procedures to counter any potential opponent. We expect improvements throughout their general purpose forces despite manpower shortages and fiscal constraints. [REDACTED]

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The force projections in NIE 11-14-85 are based on Intelligence Community assessments [REDACTED]

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[REDACTED] that highlight the long-range planning and methodical force development strategies typical of Warsaw Pact military institutions. Both the size and tremendous economic investment in the current forces constrain Soviet options for radical change throughout the force and give us high confidence in our projections through 1990. Midterm (through 1995) and long-term (through 2000) projections are increasingly based on what we see as logical follow-ons to development efforts now under way and on critical assumptions about economic performance, political priorities, and prospects for new technologies. We have less confidence in our extended projections, although our historical data bases suggest that radical change is uncharacteristic of the Soviet force development process. [REDACTED]

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These projections indicate that, despite increasing cost and complexity, the Soviets plan to acquire new weapons in virtually every category of general purpose forces. Higher costs and lower economic growth rates, however, may bring about procurement rates slower than those in the 1960s and 1970s. Nonetheless, important qualitative and quantitative changes will occur:

- The Soviets will field a new generation of interceptors with advanced lookdown/shootdown avionics representing a major "catchup" for the Soviets in fielding advanced avionics available in the West.
- The Soviets, and perhaps some of their allies, will field at least one new tank design, as well as new self-propelled artillery and surface-to-air missiles—improving Soviet weapons that are already among the world's best.



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- The Warsaw Pact weapon inventory by the year 2000 will grow by 10,000 tanks, 11,000 major artillery pieces, 34,000 armored personnel carriers (APCs) and infantry fighting vehicles, and 3,000 helicopters.
- Priority for modernization will continue to be opposite NATO.

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All Pact general purpose forces have been affected by new command structures designed to overcome NATO defenses by coordinating large-scale joint-service, combined-arms offensive operations at the theater level. The Soviets have apparently established at least three theaters of military operations (TMOs) high commands opposite NATO directed by senior ground force officers. These peacetime TMO commands:

- Permit centralized control and integrated planning of operations over large areas using joint forces subordinate to a single commander operating under a single plan or concept of operations.
- Permit the planning and availability of forces and supplies to conduct successive, multiple-front operations able to strike throughout the depth of the enemy's rear area, supportive of the nonstop high-tempo offensive favored by the Soviets.

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The Warsaw Pact will continue to make important operational and organizational changes to concentrate conventional ground and air firepower and to improve battlefield maneuver. In the Ground Forces:

- Divisions are being reorganized to emphasize combined-arms operations against NATO antiarmor defenses. Infantry and artillery have been added to complement the tank by clearing defenses in advance of armor. We anticipate continued organizational improvement.
- The Soviets are probably considering the precombat deployment to East Germany of forces in the western USSR to add more weight to the initial attack against improved NATO defenses. An unprecedented logistic buildup in East Germany will allow the forces to deploy rapidly to Europe unencumbered by their supply train.
- The Soviets will continue to refine operational concepts—such as use of the operational maneuver group and air assault tactics—designed to bypass NATO defensive strongpoints and increase rates of advance.

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In the Air Forces the Soviets:

- Recognize that NATO's qualitatively superior air forces present the greatest threat to the success of their TMO offensive and as a counter have modified their concepts for winning air supremacy by developing an air offensive operation designed to create temporary local superiority over NATO in key sectors of advance.
- Have designed an air defense variant in case NATO seizes the initiative in an air war. The air defense variant integrates air assets and ground-based air defense and artillery in a concerted effort to defeat NATO aircraft and destroy forward bases and air defense sites.
- Have reorganized and converted many interceptor units to ground attack elements and given ground commanders rotary and fixed-wing aircraft for direct support. [REDACTED]

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Naval general purpose forces continue to have the major missions of protecting the missile-launching submarine force and defending the USSR against NATO strategic strike forces. In addition, we expect naval general purpose forces gradually to increase training and assets to support amphibious operations on coastal flanks. Strategic Naval Aviation forces are continually being modernized and will cooperate with the Air Forces in the struggle for theater air supremacy. These forces might also participate in land bombing. Finally, as new submarine-launched cruise missiles become available to the naval general purpose forces they will be integrated into theater nuclear strike plans. [REDACTED]

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New weapons, new organizations, and new combined-arms operational skills have led the Soviets to question traditional training practices. New unit training programs have been identified in the Ground Forces, and pilot training is improving in the Air Forces. The latter shows more realism and offers the opportunity to display more initiative, but we do not predict that these improvements will approximate Western standards of training. [REDACTED]

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Despite programed improvements designed to provide Pact forces with greater lethality and combat potential, most Pact forces face growing manpower shortages. This results in expanded structures not fully manned, a lowering of peacetime unit readiness, and greater reliance on reservists. In the near term this situation will be unavoidable. Thus it appears that the Soviets are trading readiness for combat potential, making it less likely that they can quickly go to war without extensive unit preparation. [REDACTED]

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The Warsaw Pact clearly remains prepared to fight a nuclear war, and planned improvements in theater nuclear weapons are designed to keep the Pact at least at parity with NATO in the years ahead. Nonetheless, the significant improvements we project in Pact conventional forces, operational concepts, and theater command structures are designed to create a war-winning conventional capability.

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Although the East Europeans retain peacetime control of their forces, force development is probably heavily influenced by Soviet-dominated Warsaw Pact committees or through direct bilateral negotiations with the Soviets about projected force goals. In wartime, East European forces would be subordinate to Soviet-commanded TMOs.

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Despite Soviet pressure on them to follow Soviet force development models, none of the East European forces have kept pace with Soviet force improvements. This disparity will probably worsen in the years ahead, especially in the Air Forces, where the East Europeans are unlikely to procure enough of the most advanced Soviet models. This gap creates potential weaknesses that can be exploited because the East Europeans will have difficulty in adopting the latest Soviet organizations or operational concepts. The Soviets are apparently trying to compensate for this discrepancy by pressuring their allies to modernize in critical areas such as air defense and by sponsoring East European co-production consortiums for Soviet-designed equipment. Nonetheless, barring sustained economic recovery in Eastern Europe and greater willingness to spend for defense activities, the East Europeans will fall further behind the Soviets during the projection period. The Soviets may increasingly be forced to augment or replace first-echelon East European forces with their own forces drawn from the western USSR.

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## DISCUSSION

## I. THE PROJECTIONS

## Overview

1. This Estimate forecasts trends in Soviet and Warsaw Pact general purpose forces through the year 2000. It covers a number of force-related issues—force structure, command and control developments, organization, weapon procurement, and operational art.

This first chapter of the Estimate discusses the principal resource constraints affecting force development.

2. Chapter II provides a perspective on where the general purpose forces as a whole are going and what objectives the Soviets hope to accomplish with their ongoing conventional and nuclear force buildups. Chapter III deals with Warsaw Pact doctrine and forces. Subsequent chapters discuss the rationale for the changes we forecast in each of the general purpose forces—ground forces (chapter IV), air forces (chapter V), and naval forces (chapter V). We also include an extended discussion of non-Soviet Warsaw Pact (NSWP) force trends (chapter VI). Chapters II and IV-VI also address important trends—such as those in operational art and in command and control structures—that do not lend themselves to quantitative presentation.

## Background

5. The Soviets apparently use their dominance within the Warsaw Pact to push modernization goals on their allies. According to open press reports, periodic high-level Warsaw Pact meetings are used to assign defense spending priorities to Pact countries. Judging from uneven rates of modernization within the Pact, and East European public statements, the Soviets have not been completely successful in obtaining rapid rates of military modernization in Eastern Europe. Nonetheless, the Soviet force development model is used throughout the Pact.

## Resource Constraints

6. In making our projections we have considered important resource constraints that we believe are influencing Soviet force planners as they prepare future force programs.

we can describe these constraints in the aggregate and estimate the ways in which they could bound reasonable possibilities for future force change.

7. The two major resource constraints that both Soviet and non-Soviet force planners face come in the areas of defense spending—caused by the slowing of Communist countries' economic growth—and tightening manpower supplies caused by demographic distortions. To some extent these problems are common throughout all or most Pact countries, although their severity varies considerably from country to country.

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**Defense Spending**

8. Our most recent estimate of Soviet defense spending shows that total defense-related activities grew at an average annual rate of 4 to 5 percent during the period 1965-75 but at only about 2 percent in the late 1970s. [ ] a slight upturn—to about 3 percent—in defense spending growth in the 1980s. We believe that Soviet defense spending will continue to grow in real terms. We believe, moreover, that in the next 15 years the Soviet economy will be able to provide general purpose force planners with the means necessary to maintain at least the growth rates experienced thus far in the 1980s. This rate of growth will be less than in the 1960s through the mid-1970s, but we anticipate it will be sustained without dramatic peaks and valleys in spending levels (see annex A). [ ]

9. [ ]

[ ] If Soviet defense spending remains at about its current share of gross national product (GNP) and weapons costs continue to escalate, we judge that the projected rates of growth in GNP will result in rates of weapons procurement somewhat lower than in the 1970s. Our projections take this probability into account. We doubt that the East Europeans will increase their weapon acquisition rates—despite Soviet pressure. [ ]

10. In any event we believe spending commitments have already been made to continue and complete the force changes we have already identified and which are discussed in detail in chapters IV and V. Eventually, however, we judge that more modest economic performance may affect some force programs, but probably not until the next decade. We have tried to factor this judgment into our projections. [ ]

11. All agree that, even if in the years ahead there is selective or broad-based slowing of the rate of force development relative to the 1970s, economic causes will not lead to a turndown in overall general purpose force capabilities. Furthermore, priority will go to improvement of forces opposite NATO; where appreciable modernization is expected to continue during the projections period. There is some disagreement about the effect that any economic slowdown will have on military programs and about which programs may be affected. These disagreements basically affect the rate at which modernization will occur, with economic difficulties possibly slowing the rate of modernization by several years in some portions of the force. Our alternate projections reflect some of these differences. [ ]

12. We judge that any slowdown in the force development process would be reflected primarily in weapons programs. Such a slowdown would be manifested in:

- Lengthened research and development times and the fielding of fewer weapons.
- A slowdown of weapons acquisition in general, although we do foresee increased acquisition rates for a few high-priority weapon systems, such as self-propelled artillery and such high-performance aircraft as the MIG-29 and SU-27.
- Increased use of product improvement techniques in the Ground Forces, such as the current program to rebuild T-55 and T-62 tanks in order to lengthen the service life of older equipment.
- A slowdown in the rate of growth in the size of the Ground Forces.
- Extension of the life cycles of newer equipment.

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**Manpower Problems**

13. We judge that a tightening supply of draft-eligible manpower already has become a substantial resource constraint, particularly in the Soviet Ground Forces. Our analysis indicates the Soviet manning problem will persist for the remainder of this decade, but that the supplies of draft-eligible Soviet males will rebound toward the end of the century. Throughout the projections period, however, the Soviets will face a shift in the ethnic mix of the draft-eligible population as non-Slavic growth outstrips Slavic growth (see annex C). These changes may create some training problems for non-Slavic conscripts, particularly in the Ground Forces, which receive the bulk of poorly prepared draftees, because many have poor Russian-language skills. Furthermore, the Soviets have probably begun to open up sensitive combat positions and the officer corps to larger minority participation than in the past. [ ]

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14. We believe the Soviets may have already responded to tightening manpower supplies in the late 1970s by imposing manpower restraints on their armed forces and by enlisting women. With the simultaneous expansion of divisional structure, this has meant that the peacetime manning authorization as a percent of authorized wartime strength in the typical Soviet unit has declined during the past several years. This results in a greater dependence on reservists for wartime manning, a trend that will become significant

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in the years ahead, and a lowering of peacetime readiness of many units. In fact, even the Soviets' most ready divisions in Eastern Europe have been affected by the manpower freeze. Typical manning levels in both motorized rifle divisions (MRDs) and tank divisions (TDs) have dropped from about 90 percent of wartime authorized strength in the late 1970s to between 80 and 85 percent. During the projection period the Soviets may choose to compensate for this trend by adopting more effective reservist training.

15. Several of the East European countries are also facing conscript shortages, although the timing and severity of these shortages vary considerably. By the late 1980s, however, most of the Warsaw Pact countries will face shortages of some type. We cannot exclude the possibility that this common problem would make a negotiated reduction of standing forces—perhaps through the mutual and balanced force reduction (MBFR) forum in Vienna—attractive to Pact political leaders. We note, however, that all the regimes facing shortages are already taking steps to deal with them and apparently are not assuming that a force reduction agreement with the West will occur. We also judge that any agreement is not likely to be large enough to resolve the conscript shortage in any of the East European countries.

#### Other Factors

16. Our projections can also be affected in unpredictable ways by significant technological or political developments. For example, we believe that Soviet threat calculations have the most potential for causing a significant change in future force development.

17. The Soviet political-economic system has given priority to military requirements. To judge from the USSR's sustained heavy investment in military forces and weapons research and development (R&D), Soviet leaders recognize that military power is the principal basis of their influence and status in international relations. Traditionally, this leadership has been willing to sacrifice civilian needs for military developments.

18. We believe there is small chance that there will be any major shift in the attitudes of the Soviet leadership toward the armed forces during the period of this Estimate. We are less sure of the post-1990s period, but we assume the traditional Soviet process of developing potential leaders will continue to result in a small group convinced of the need for a strong

military establishment. This conclusion is important to our projections. A leadership that wanted to make a radical shift in the Soviet economy from a "guns to butter" emphasis or that wanted to markedly reorder resource allocation priorities within the armed forces (such as Nikita Khrushchev did in the 1950s) would substantially affect the development of the Soviet armed forces and the result could be general purpose forces much different from those we have projected. At present, however, there is no evidence that this type of policy shift is being or will be considered.

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#### Technological Breakthrough

19. We considered the possibility of a technological breakthrough that would have an impact on major general purpose force weapon systems and do not anticipate such an event before the end of this century. Our ability to project technological developments, however, is not good during the outyears of our projection period. While we see a new series of weapon systems now beginning to enter the force, these generally have modest improvements in firepower, mobility, and survivability. The Soviet Air Forces are, however, introducing a new generation of fighters and interceptors, with advanced look-down/shoot-down multiple target tracking capabilities, a significant improvement over older aircraft. Though the technology is new and significant for Soviet forces, it does not constitute a breakthrough as much as a "catchup" to technology available in the West. Our analysis leads us to conclude that any weapons scheduled to enter full-scale deployment by the turn of the century are now or soon will be in at least the early stages of R&D.

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#### Evidential Basis of Projections

21. The projections [REDACTED] represent our analysis of the likely outcome of the general purpose force development process. The confidence we have in our

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projections varies considerably, depending on how far into the future we peer and on the basis—evidentiary or speculative—of the individual projection. There is some disagreement within the Intelligence Community on specific projections, but most of these occur in the outyears of our projection period when hard evidence must largely be replaced by educated guesses and assumptions concerning economic and political performance. Rather than obscure these differences in compromise projections, we have offered alternate projections. In general, though, we believe all would agree on the following general characterizations of the reliability of our projections as a function of both time and available evidence:

— **Near-Term Projections.** The inertia imposed by the large size of the current force, its past developmental patterns, and limits on current production of weapons tend to dictate near-term (up to five years in the future, within the current five-year plan) force development. Events now occurring in the force provide the evidential basis for this projection period. In the near term there is little prospect for dramatic change. A possible exception is the initial fielding of the advanced MIG-29 and SU-27 aircraft, which should enter the forces in modest numbers in the next five years and become standard in the 1990s. These aircraft are major improvements in capabilities over predecessors, and the forces affected in the next five years—largely those opposite NATO—by such modernization will undergo substantial improvement. By and large, however, the Soviet general purpose forces are simply too large and substantial changes too expensive for the force to be able to respond quickly to a radical shift in force development.

— **Midterm Projections.** Weapons now under development, anticipated changes in rates of production, and our assessment of the likely conclusion of current developmental activities—in terms of force structure, equipment modernization programs, organizational goals, and operational and tactical concepts—provide the analytical framework for our midterm projections—up to 10 years in the future. This period also coincides with our ability to make reasonable projections about economic performance and technological developments.

— **Long-Term Projections.** Our assumptions about the Soviet force planners' response to their perceptions of economic, demographic, technological, and other influences on the process of force

development provide the conceptual framework for long-term projections—10 to 20 years or more in the future. There is greater opportunity for change in the long term because there is more time for weapons program improvements, technological developments, and the impact of leadership decisions and other influences to occur. Furthermore, even the accumulation of small changes implemented widely over an extended period of time can have large effects on force capabilities. Because of the great uncertainties in making long-term projections, the reader should be aware that there is greater variation in our projections and that we have less confidence in their accuracy. We have made no serious attempt to cost projections during the 1990s, nor can we predict the effect of major technological changes past about 1995.

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## II. GENERAL PURPOSE FORCES PERSPECTIVE: WHAT ARE THE SOVIETS UP TO?

22. In the early 1960s, Premier Khrushchev's great emphasis on strategic weaponry resulted in deep cuts in the conventional forces. Since then, however, the Soviets have sought a better balance between their strategic forces and their conventional general purpose forces. Consequently, the general purpose forces—paced by the Ground Forces—have made a sustained recovery during the past 20 years.

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23. Since the mid-1970s, moreover, the achievement of virtual parity in strategic—and more recently in *theater*—nuclear forces has apparently led both sides to reexamine their conventional war-fighting capabilities.

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and exhibits remarkable doctrinal continuity. Consequently, the Soviets to a great extent have already planned for and heavily invested in the general purpose forces they believe will prevail on the battlefield of the 1990s. The broad outlines—and some details—of their future general purpose forces are already visible in new weapon designs, emerging operational concepts, new unit organizations, and training programs discussed in this Estimate. [REDACTED]

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24. The Soviets believe that the West presents them, above all, with enormous economic and technological threats that have direct military application. They believe strongly that the West's economic strength is the basis for its vast potential military strength—a potential being partially realized by, in Soviet eyes, the recent US defense spending increases. US spending trends—although unmatched by all NATO partners—have led, according to Soviet literature, to troublesome improvements in NATO's conventional defenses—particularly antiarmor defenses.

[REDACTED]

Ground Forces developments, accordingly, deeply affect the overall development of all theater forces intended for land campaigns. Operationally, a Ground Forces officer would be given overall command of forces drawn from all services within land theaters of military operations (see figure 1, with accompanying text inset). [REDACTED]

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[REDACTED]

25. The Soviets are equally impressed—and troubled—by Western technology and technological potential. Recently deployed weapons—such as the nuclear-capable Pershing II and ground-launched cruise missile (GLCM) with sophisticated guidance packages resulting in high accuracies at extended ranges—present immediate threats to the Soviet homeland. The Soviets are now openly writing about, and presumably planning to counteract Western technologies—especially precision guidance and electronic miniaturization advances—that are still in the developmental stage or only beginning to be fielded in quantity. [REDACTED]

[REDACTED] an apprehension of programed NATO force changes, has already inspired major improvements in conventional firepower, maneuver concepts, and overall troop control of large joint-service forces. The pursuit of these triple goals—integrated ground-air-naval firepower, maneuverability, and reliable theater-level troop control—will spur further change through the year 2000 and will provoke complementary changes in the years ahead, such as logistic and training improvements.

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#### Firepower and Maneuver in Soviet Conventional Strategy

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26. By Western standards the Soviet military is excessively centralized and committed to unusually long-range planning implemented by methodical force development. The General Staff oversees force planning, supervises program implementation, and, in wartime, would actually command combat forces. Highly influenced by its World War II experience, it takes a cautious view of the potential threats to the USSR, and tries to guard against them by building massive strategic and general purpose forces. [REDACTED]

30. Open Soviet writings in the past few years have discussed lengthened periods of intensive conventional warfare. [REDACTED]

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[REDACTED] They even describe the effects of some conventional weapons as approaching those of low-yield nuclear weapons. However, because of the effects that blast, heat,

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27. Soviet military development, reacting methodically to perceived threats of the near future and to the inertia created by large forces, has been evolutionary

<sup>1</sup> In this Estimate we use the term "joint-service" (in Soviet parlance, "combined arms") to indicate coordinated combat action involving activity of two or more general purpose forces—ground, air, or naval—to accomplish a task or combat mission. [REDACTED]

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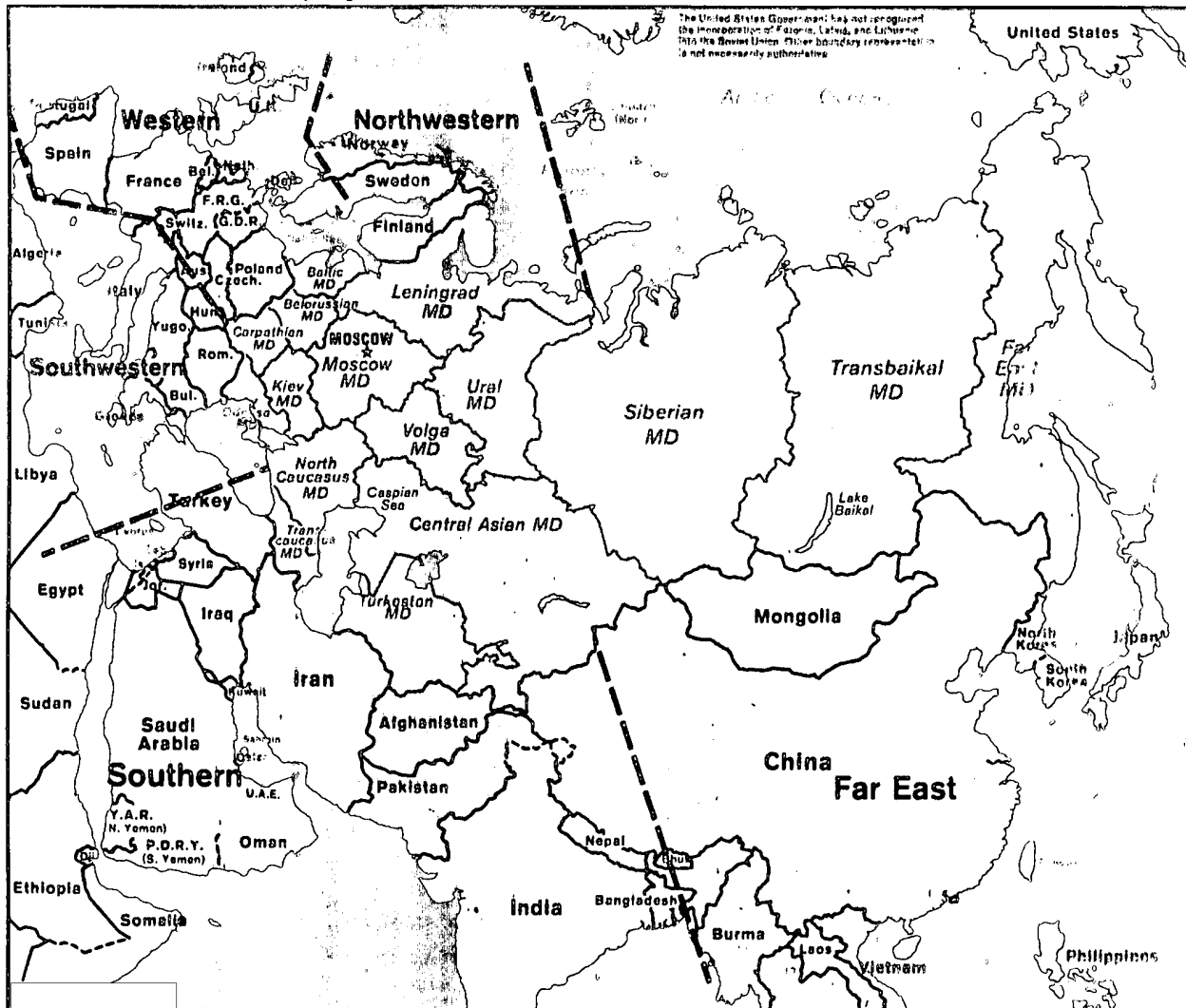


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**Figure 1**  
**Soviet Theaters of Military Operations**



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#### Soviet Theater Concepts

The Soviets define a theater of war as the territory of any one continent, together with the sea areas adjoining it and the airspace above it, on which hostilities may develop—for example, the European theater of war. The Soviets have not established any such command authorities, and are unlikely to do so.

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## Soviet Response to Emerging Conventional Weapons Technologies

**Western Developments.** The threat of improving NATO technology to the Soviet conventional forces surveyed in this Estimate has been recognized by Soviet Marshal Ogarkov:

... the rapid development of science and technology in recent years creates real preconditions for the emergence in the very near future... of previously unknown types of weapons based on new physical principles... it would be a serious mistake not to take account of this right now.

Recent changes of NATO doctrine already foreshadow a transition to a new generation of high-technology weaponry designed to stop Soviet offensives. In December 1982, NATO approved the Follow-On Forces Attack (FOFA) concept to prepare for new, deep-strike, precision-guided munitions that may be fielded later this decade. These weapons are designed to strike Warsaw Pact airfields, follow-on forces, and command facilities deep in the rear before they could affect the forward battle. Some conventional weapons can approach nuclear weapons in destructiveness.

**Soviet Reactions.** In general, the Soviets are reacting to the new high-technology conventional weapons using language similar to that they used in the 1950s to describe nuclear weapons. The Soviets are moving to minimize the vulnerability of their conventional forces to NATO's new weapons through:

— The fielding of more weapons with better technical performance

— The use of relatively low-technology expedients to exploit supposed vulnerabilities in NATO high-technology systems, such as the addition of applique armor to Soviet tanks.

— The use of deception techniques.

— Preparation of hardened field defensive positions and alternate runways.

— Development of concepts using existing weapons to target and destroy NATO deep-attack systems.

**Prospects.** The Soviets, though aware of these emerging threats to their conventional forces, show no signs of abandoning their faith in the offensive or in armor as the spearhead of offensive action. Rather, the Soviets are at work making the tactical, technological, organizational, and numerical adjustments that they believe will permit their forces to maintain the momentum of the attack and the credibility of their offensive doctrine.

and radiation would have on enemy equipment, personnel, or structures in any type of target area, nuclear weapons remain the most powerful weapons on the battlefield. The Soviets, however, continue to emphasize not only the unsurpassed destructiveness of nuclear weapons but also their decisiveness in determining the outcome of a war. They apparently have two principal components to their conventional strategy: (1) destruction of enemy forces with joint-service conventional firepower and (2) penetrating enemy defenses.

Tactical commanders at all levels are now receiving additional artillery, air defense weapons, and tactical missiles with greater range, better mobility, and special-effects warheads. These weapons can accompany

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maneuver forces to suppress antitank defenses or can lay down preplanned area barrages at extended ranges to protect armor and infantry assaults. [ ]

32. The growth of Soviet ground firepower has been matched by increasing air fire support for land operations. Increasing numbers of theater bombers opposite NATO and China can strike deep into rear areas at the same time forward defenses are assaulted on the ground. New fighters and air defense missiles will contest the NATO air threat. The Soviets plan to use short-range ballistic missiles (SRBMs) to supplement the air operation. Finally, helicopters and fixed-wing assets also have been provided to ground commanders as part of the program to reorganize the Soviet Air Forces. [ ]

33. If the Soviets are to successfully integrate joint source combined arms forces they must overcome important difficulties. They must, for example:

- Identify and procure the proper mix and numbers of conventional weapons in combined-arms units and formations.
- Develop and automate integrated joint-service staff planning and control procedures to ensure responsive, coordinated ground, air, and naval fire strikes.
- Develop reliable reconnaissance, target acquisition, and fire-control systems for rapid identification and destruction of key targets such as NATO nuclear-capable units.
- Train officers and conscript crews in increasingly complex combined-arms tactics and new weapons. [ ]

35. The Soviets face improving NATO antitank and antiair defenses that could slow their tempo of operations. [ ]

[ ] This work will spur continued development of their doctrine and their forces in the years ahead as they attempt to refine their combined-arms capabilities. [ ]

#### New Emphasis on Troop Control

37. The TMO increasingly is the focus for the command and control of Soviet military operations. A single Soviet commander, in charge of a TMO high command of forces, coordinates the activities of a force that could include more than 90 divisions, thousands of aircraft, and supporting naval fleets. These forces would operate over a large area and theater objectives could involve seizing targets 1,000 kilometers or more within enemy territory. [ ]

38. The TMO level of command rose to prominence because of the need to coordinate the operations of several fronts with forces operating deep within enemy territory and to use available air forces efficiently throughout the theater. Modern electronic advances, according to the Soviets, provide the technical basis for central control of large, joint-service forces operating over vast areas. The Soviet challenge for the 1990s is to exploit available technology by developing reliable integrated joint-service staff procedures, responsive automated reconnaissance and command and control systems, and skilled combined-arms senior officers able to provide continuous overall direction to theater forces. This will require the TMO

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commander and his staff to devise a single integrated plan of action for all forces, to keep constantly in touch with the battlefield, and to shift and concentrate his forces to exploit success in any sector of the theater.

[REDACTED]

39. During the period of this Estimate, the Soviets will improve their communications and computer equipment, refine their staff and command procedures, and work toward perfecting the high command of forces concept. The Soviets recognize, however, that there is a grave danger on the modern, quickly changing battlefield of creating excessively rigid and centralized control procedures at all echelons. Junior commanders are also aware that higher control echelons constantly monitor their progress and can intervene directly in tactical situations. This rigidity—typical of the entire Soviet military and originating in the prerogatives and control mechanisms available to the General Staff—clashes with the autonomy needed by commanders on the battlefield to react quickly to unanticipated conditions. New Soviet training programs emphasize the need for junior-level flexibility. But neither we—nor apparently the Soviets—know how they can resolve the dilemma in the coming years posed by their traditions of centralization and modern needs for tactical flexibility. [REDACTED]

40. The Soviets apparently have in place with most East European forces a system that effectively places the NSWP forces under Soviet control from the outset of hostilities. Non-Soviet officers would be subordinate to Soviets on major wartime command staffs above front level. Peacetime training, readiness, and equipment procurement programs are monitored by Soviet-dominated Warsaw Pact staffs. Furthermore, from the Soviet viewpoint, the East Europeans can generally be relied on to play roles that they have been assigned and have trained for, at least early in any NATO-Pact conflict. [REDACTED]

41. Soviet fiat, however, cannot close the widening gap between modern Soviet forces in Eastern Europe and those of Soviet allies. This disparity in combat potential is most pronounced in Eastern Europe's southern tier and in Poland. It will probably lead to operational adjustments in Soviet plans against NATO in the years ahead. [REDACTED]

42. The Soviets have made significant improvements in their theater nuclear forces, and we anticipate more to come.

[REDACTED]

44. Over the next 15 years we anticipate changes in the way the Soviets organize, equip, train, control, and plan to employ their general purpose forces. These changes will, of course, be affected by the availability of resources and by the political priorities put on their use. Nonetheless, general purpose forces will improve significantly through the year 2000. Some force changes will be caused by bureaucratic momentum or by infighting [REDACTED]

### III. WARSAW PACT DOCTRINE AND FORCES Theater Warfare Doctrine

45. Soviet military strategy is designed to guarantee defense of the homeland. After their bitter experiences in World War II, the Soviets never again intend to fight a defensive war on an enemy's terms. Rather, they believe offense is the best defense, and plan to seize the strategic initiative against any adversary and transfer the fighting to enemy territory from the outset. The Soviets and their allies have developed large general purpose forces ideally suited for offensive warfare. In peacetime, the best of these forces are stationed on the borders of the Soviet homeland or in Eastern Europe, where they hope to stop enemy attacks well short of Soviet territory and take the fight quickly into enemy territory. [REDACTED]

46. The Warsaw Pact is prepared to fight at any level—conventional, chemical, nuclear, or any combination. [REDACTED]

[REDACTED] The Soviets believe in clearcut force superiority—mass at the point of attack—and they and their allies have worked incessantly to build the massive conventional forces that they believe create such superiority. [REDACTED]

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**The Forces: Status and Readiness****Command Structure**

54. The Soviets may be establishing high commands in some theaters of military operations such as the Western and Southwestern TMOs, opposite NATO. They apparently have appointed commanders in chief (CINCs). The only permanently active TMO-level command has been the High Command of Forces in the Far East, activated at Ulan-Ude in the late 1970s.

55. The high commands of forces are an extension of the General Staff operating between the combat forces and the Supreme High Command. The Supreme High Command is not active in peacetime but would be headed in wartime by the party General Secretary. Use of the high commands to control combat forces would free the General Staff in Moscow—the executive agent of the Supreme High Command—to concentrate on the overall direction of a multitheater war.

56. Opposite NATO any new high commands would include East European forces, at least in wartime. How the Soviet-controlled peacetime high commands will relate to the armed forces of the East Europeans is not yet clear to us and probably would be a delicate matter that is still evolving. The Warsaw Pact has one command structure in peacetime and another for wartime—and it is only the wartime structure that includes “unified” Warsaw Pact high commands for the TMOs. The East Europeans—except the Romanians—have accepted a wartime structure that subordinates their forces directly to the Soviet Supreme High Command.

57. In the past, high commands for the Western and Southwestern TMOs may have been activated to practice their wartime control of both Soviet and East European forces. Establishment of these commands on a permanent basis would appear to be an evolutionary step in the Soviets’ efforts to improve their own command structure. The East Europeans, however, almost certainly will resist any arrangement for the permanent activation of the planned wartime high commands that included day-to-day control of their forces. The Soviets could compromise by limiting the new commands’ peacetime Warsaw Pact role to such functions as planning for wartime operations, training, and weapon modernization programs, and by confining to exercises their operational control of East European forces. We do not yet have sufficient evidence to determine the nature and extent of Soviet authority within such a TMO structure. Whatever

their relationship with East European forces, the high commands probably will control Soviet forces in the TMOs in peacetime.

59. Having the high commands operating on a full-time basis in peacetime would ease the transition of the Soviet and Warsaw Pact command structures to a wartime posture and does remove one potential indicator of preparations for war.

the activation of the permanent TMO high commands does not, by itself, reduce our confidence in our overall ability to provide warning of war.

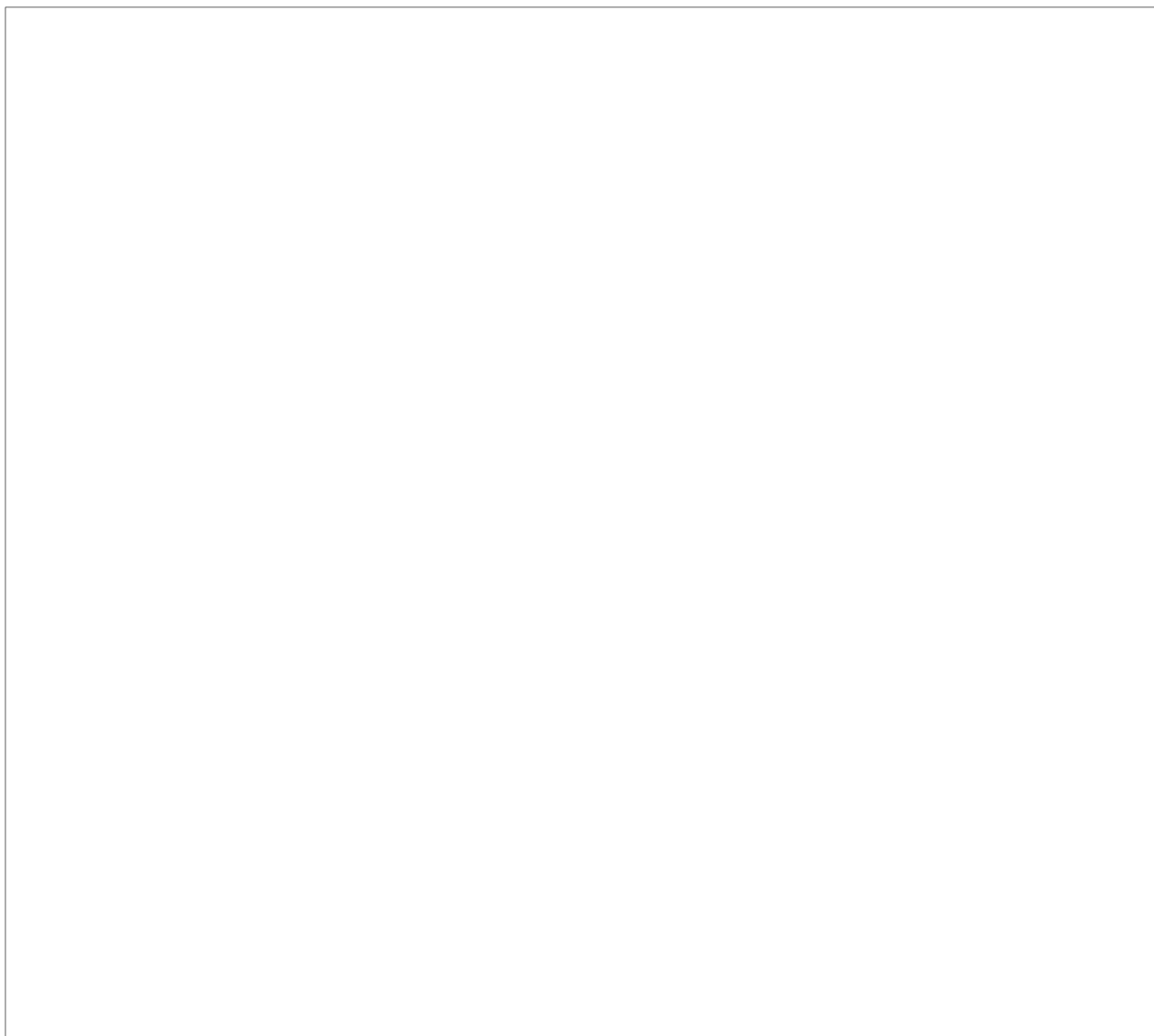
**Ground Forces**

61. Front forces are drawn from all arms—tank, infantry, artillery, missile, air, and certain air defense forces. The front could have one or more airborne

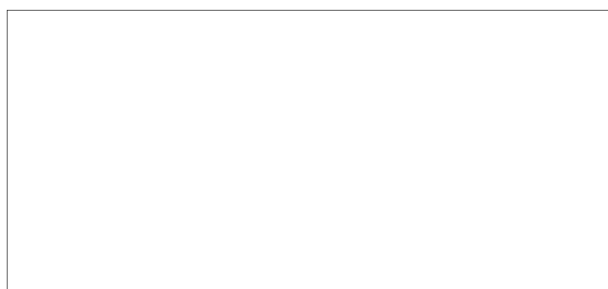
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62. The Warsaw Pact ground forces are by far the largest of the three general purpose forces. The Warsaw Pact countries collectively maintain 281 ground divisions—the principal maneuver unit of the forces—and hundreds of specialized nondivisional combat support and service support units (see table 1). Despite

efforts at standardization, divisional composition varies considerably from country to country, particularly in terms of organization and weapons holdings.

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63. Warsaw Pact ground units are categorized by the Soviets as either "ready" or "not ready" for operations. Ready units have higher manning, are better trained, and usually are better equipped than not-ready units. They are generally concentrated opposite either NATO or China. However, the majority of all Pact units are considered by the Soviets as not ready. (See figure 2.)

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64. Ready units are expected to be immediately ready to mount at least emergency defensive operations at any time.

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**Table 1**  
**Warsaw Pact Ground Forces, 1985**

	Soviet	Non-Soviet	Total
Active MRDs	142	38	180
Active TDs	51	15	66
Airborne divisions	8	2	10
Total active divisions	201	55	256
Mobilization-base divisions	13	12	25
Ready MRDs	50	27	77
Ready TDs	25	13	38
Not-ready MRDs	104	22	126
Not-ready TDs	27	3	30
Total divisions	214	67	281
New-type unified army corps	2	0	2
Army commands	29	15	44
Army corps	11	1	12

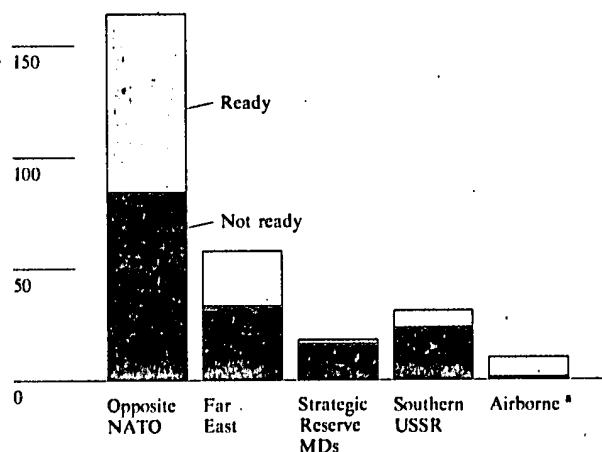
Not-ready units are considered by Pact planners to be incapable of offensive operations without longer periods of preparation—including mobilization and postmobilization training—that could extend to a month or more, depending on the unit's peacetime status and the nature of their expected missions. Not-ready units could be committed to operations before completing all preparations, but Pact planners would have to settle for reduced levels of combat proficiency. All of the not-ready divisions would have to move from the USSR before they could be used.

65. The two-tiered readiness system effectively creates two Warsaw Pact armies: a well-trained and well-equipped force ready for immediate commitment, and a much larger reserve force not immediately ready to fight but representing massive combat potential in the event of prolonged hostilities. While ready divisions generally have first claim to defense resources, proximity to a major threat and planned role in combat also affect resource allocation. For example, although Soviet not-ready units in the western USSR opposite NATO are not as well manned or trained as ready divisions opposite China, they do have more modern equipment. Generally, non-Soviet forces in the northern tier of Europe, which face NATO's strongest forces, are better equipped than those in the southern tier.

**Figure 2**  
**Readiness of Soviet and Non-Soviet Ground Forces**

Divisions

200



\* This includes both Soviet and non-Soviet Warsaw Pact airborne divisions, as well as one Polish sea-landing division.

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66. Despite a large arms industry, most Pact ground force units have equipment of 1960s design or older. In the Western TMO, which has the highest priority for modernization, only one-half of all Soviet tanks were produced after 1970 and most artillery was produced or designed before then (see figures 3-5). At any time, at least three generations of the same type of equipment are being fielded simultaneously in the forces. Newer equipment displaces older designs, which are then sent down to units of lower priority.

Some older equipment also is exported to Third World customers. Even a high-priority modernization program with Soviet forces in the Western TMO takes at least a decade to complete. This problem of equipping vast forces, filled with aging equipment, means that Pact planners never fully modernize their forces but place only their best equipment opposite their most pressing threat.

67. From the Pact point of view, however, weapons reliability is more important than "newness" per se. Many of the pact's standard weapons, perhaps with some modifications, include tanks, armored vehicles, artillery, missiles, and air defense weapons that,

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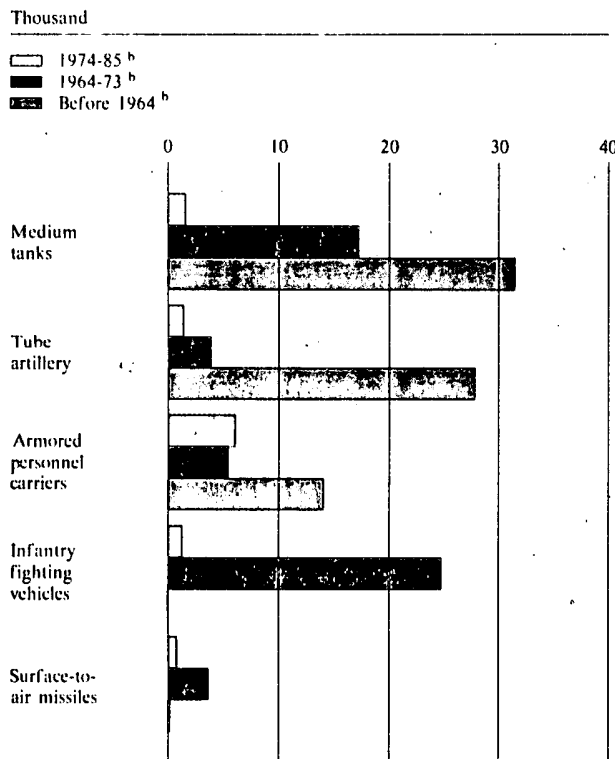
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**Figure 3**  
**Age of Soviet Ground Forces Equipment<sup>a</sup>**



<sup>a</sup> Total forces inventory—including weapons found in mobilization-base units. We have excluded hand-held SAMs because of great uncertainty in quantifying these systems.

<sup>b</sup> Year equipment began full introduction into force.

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though representing 1960s technology, are still combat capable. These weapons are not necessarily inferior to their standard NATO counterparts, which often also represent older technology. Many of the older Pact weapons are rugged, reliable designs that have been proved by the thousands deployed to the field and still found in large numbers with the forces. In addition, the large pool of these weapons provides the Pact with mass and numerical superiority for offensive operations and with significant reserves to survive the high attrition rates characteristic of modern combat.

#### Air Forces

68. The Warsaw Pact air forces consist of 11,000 fixed-wing aircraft and an additional 5,000 rotary-wing aircraft (excluding Soviet Naval Aviation). These include fighters, fighter-bombers, light bombers, me-

**Table 3**  
**Soviet Air Forces: Tactical Combat Aircraft, 1 January 1985<sup>a</sup>**

Fighter-interceptor	
SU-15 Flagon	295
TU-128 Fiddler	25
YAK-28 Firebar	20
MIG-21 Fishbed	450
MIG-23 Flogger	1,640
MIG-25 Foxbat	130
MIG-29 Fulcrum	85
MIG-31 Foxhound	8
Attack	
MIG-21 Fishbed	135
SU-7 Fitter	135
SU-17 Fitter	900
SU-24 Fencer	235
MIG-23/27 Flogger	890
SU-25 Frogfoot	110
Reconnaissance and electronic countermeasures (ECM)	
MIG-21 Fishbed	65
YAK-28 Brewer	170
MIG-25 Foxbat	140
SU-17 Fitter	185
SU-24 Fencer	10
<b>Total</b>	<b>5,630</b>

<sup>a</sup> Excluded from this listing are all Soviet naval aircraft and heavy bombers as well as some 450 light bombers, 265 fighters, and 85 ECM aircraft subordinate to the strategic air armies. All values in this table have been rounded to the nearest five.

dium bombers, and various specialized fixed-wing support aircraft, as well as combat and transport helicopters. About 9,000 fixed-wing aircraft and over 4,000 helicopters are Soviet. The basic air unit throughout the Pact is the air regiment, which can have 30 to 45 aircraft, depending on the type. There are about 550,000 personnel in the Soviet Air Forces and another 200,000 in non-Soviet air forces.

69. The Soviet Air Forces are not as large or aging as the Ground Forces (see table 3), and consequently even forces opposite China and in the interior do not lag far behind standards set opposite NATO. The MIG-27 Flogger and SU-17 Fitter fighter-bombers, as

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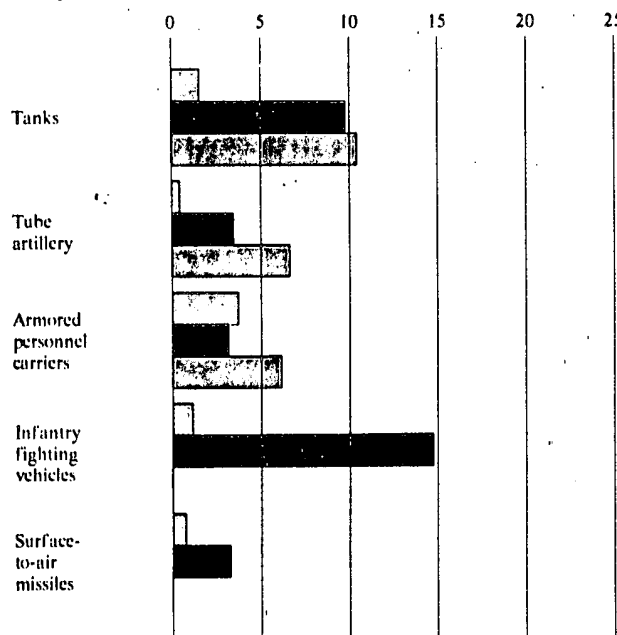
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**Figure 4**  
**Comparison of Ages of Weapons Inventories of**  
**Ready Versus Not-Ready Soviet Ground Forces<sup>a</sup>**

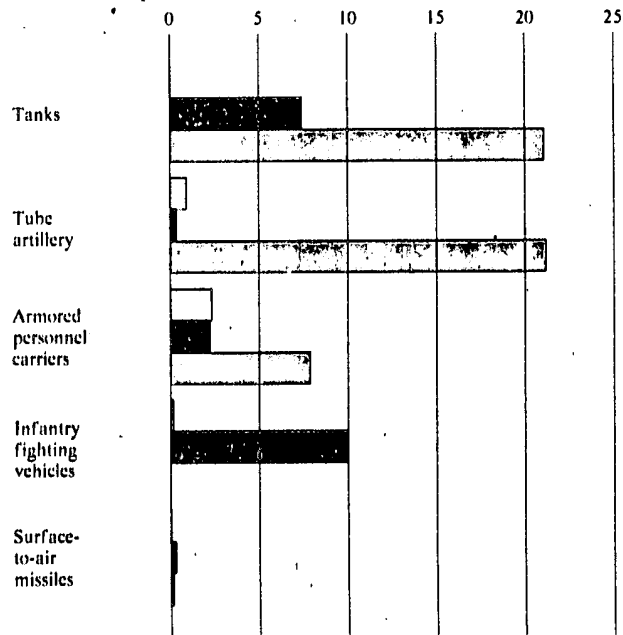
Thousand

□ 1974-85<sup>b</sup>  
 ■ 1964-73<sup>b</sup>  
 ▨ Before 1964<sup>b</sup>

Ready Force: 82 Divisions



Not-Ready Force: 132 Divisions



<sup>a</sup> Despite the disparity in the number of divisions, the ready force has more APCs and IFVs than the not-ready force, a difference that reflects the shortage of this equipment in the low-strength units.

<sup>b</sup> Year equipment began full introduction into force.

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well as the MIG-23 Flogger fighter, have greater range, bigger payloads, and better avionics than the older models they have replaced. Newly deployed deep-theater-strike aircraft—especially the SU-24 Fencer and TU-22M Backfire bomber—now give the theater commanders the capability for all-weather low-altitude attacks throughout Western Europe.

70. The Soviets reorganized their air forces in the late 1970s. The essential features of this reorganization included:

- The transfer of some Air Defense (PVO Strany) aviation forces to air forces of the military district (MD) in the MDs along the periphery of the USSR.

- The disestablishment of front aviation air armies and integration of front and the newly created army aviation into the joint forces of MDs, fronts, and ground armies.

- The creation of joint air/air defense command procedures to provide unified area air defense coverage.

- The establishment of a force referred to as Strategic Aviation. This force consists of all aircraft formerly assigned to the disestablished Long Range Aviation and aircraft drawn from front air armies.

71. The air force reorganization was apparently intended to create force components—and the means

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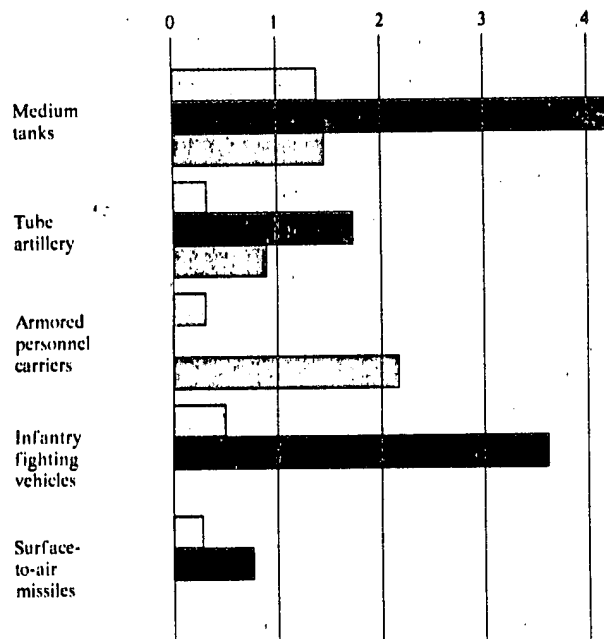
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**Figure 5**  
Age of Equipment Inventory, Group of Soviet Forces Germany

Thousand

1974-85<sup>a</sup>  
1964-73<sup>ab</sup>  
Before 1964<sup>a</sup>



<sup>a</sup> Year equipment began full introduction into force.

<sup>b</sup> The data for medium tanks (1964-73) include 3,700 T-64 tanks.

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of controlling them—that are well suited to joint operations and complex theaterwide air operations.

72. Non-Soviet Warsaw Pact air forces are much less modern or capable—even in the northern tier of Eastern Europe—than Soviet regional forces. The East European air forces collectively have only a small percentage of the modern aircraft—export variants of the MIG-23 and SU-17—that are the mainstay of Soviet forces opposite NATO (see table 4). The East Europeans are slowly acquiring such aircraft as MI-24 Hind attack helicopters and SU-25 Frogfoot ground attack aircraft. Because of their aging inventories, the East European air forces provide a disproportionately lower percentage of potential combat effectiveness opposite NATO than their numbers might imply.

**Table 4**  
Non-Soviet Warsaw Pact Air Forces:  
Tactical Combat Aircraft, 1 January 1985

<b>Fighter-interceptor</b>	
MIG-15 Fagot	8
MIG-17 Fresco	12
MIG-21 Fishbed	383
MIG-23 Flogger	198
<b>Attack</b>	
MIG-15 Fagot	58
MIG-17 Fresco	255
SU-7/17/20/22 Fitter	130
MIG-21 Fishbed	39
MIG-27 Flogger	103
SU-25 Frogfoot	8
<b>Reconnaissance</b>	
IL-28 Beagle	18
Crate/Curl/Clank	26
MIG-15 Fagot	28
MIG-21 Fishbed	79
SU-7/17/20/22 Fitter	2
MIG-25 Foxbat	2
Maya	12
<b>Total</b>	<b>1,361</b>

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73. As with their ground forces, Warsaw Pact countries apparently cannot afford to keep their entire air forces at peak readiness. Combat regiments—especially those opposite NATO and China—apparently are well manned with trained pilots. However, the Soviets reportedly have difficulty fully manning rear support and maintenance positions. In some units, they may rely on civilian technicians. Enlisted support personnel who are available are not generally well trained—a deficiency that is becoming more serious as the Soviets field more modern and more complex aircraft. Logistics handling and command and control preparations that would be needed for a major offensive air operation against NATO are not complete and may take up to two weeks to accomplish. Pact defensive air units in the forward area could, however, respond to an air attack immediately.

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#### Air Defense Forces

74. Nonaviation air defense assets in the frontal area are drawn from the Soviet Air Defense Forces and include strategic and tactical surface-to-air mis-

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siles (SAMs) and air surveillance units. For wartime air defense of theater forces, the theater commander, who also has a commander for air defense, would draw from units of the Air Defense Forces of the MD/GOF within his area of operations. [ ]

75. New-generation strategic SAM systems are being deployed to improve Warsaw Pact air defenses. The SA-10a and its mobile version, the SA-10b, have better low-altitude capabilities than earlier types. In addition, the SA-5 is being deployed to provide long-range engagement capability for non-Soviet Warsaw Pact strategic SAM units in East Germany, Czechoslovakia, Hungary, and Bulgaria. The SA-5 was also deployed in 1984 with air defense forces in the Group of Soviet Forces in Germany (GSFG). [ ]

76. Tactical SAM systems currently being deployed to defend ground forces include:

- The long-range SA-12, which is probably an SA-4 replacement and can also use the Giant ABM.
- The medium-range SA-11.
- The SA-13, which is replacing the SA-9 for defense of regimental formations. [ ]

#### Naval Forces

77. This Estimate is concerned primarily with naval forces that would have a role in land theater military operations. In Europe, most Warsaw Pact general purpose naval forces are assigned to protect and secure operating areas of the submarine strategic missile firing force or to attack NATO's nuclear-capable naval forces. [ ]

80. The Soviet approach to naval readiness differs markedly from that of Western navies. Generally speaking, the Soviet readiness philosophy stresses readiness to deploy for combat on relatively short notice rather than routine deployment of large forces. To achieve a maximum force generation capability in times of crisis, the Soviet Navy emphasizes maintenance and in-port/in-area training rather than extended at-sea operations. To the Soviet mind, it apparently is more important to be ready to go to sea than to be at sea. Under this system, operational experience and some degree of crew proficiency are sacrificed to achieve high material availability. [ ]

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[ ] The preparation for combat of naval forces supporting land TMOs would be adjusted to meet the operational requirements of land TMO forces. [ ]

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#### Reconnaissance and Electronic Warfare

81. All Warsaw Pact general purpose forces stress the need for effective reconnaissance and electronic warfare capabilities. On the modern, fast-changing battlefield, the Soviets realize reconnaissance is especially vital for identifying and targeting mobile nuclear units, a key objective of Soviet conventional planning. [ ]

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82. The Soviets have developed a wide variety of reconnaissance and electronic warfare means, including human agents, special-purpose reconnaissance units, signals intercept and jamming units, and aerial reconnaissance systems. [ ]

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Despite the Soviets' investment in reconnaissance and electronic capabilities, however, we believe further improvements must be made in the size of reconnaissance forces, sensor technology, and information processing and dissemination to meet the challenge of the 1990s. [ ]

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#### IV. SOVIET GROUND FORCES

83. The Ground Forces are the largest element of the Soviet general purpose forces. Their development largely determines the overall direction of theater force development. The tank is their premier maneu-

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ver weapon. Efforts to maintain its battlefield dominance will largely determine ground force developments during the projection period. [REDACTED]

actions of all ground, air, and naval forces within the theater, and then monitor fluid battle conditions, concentrating forces and adjusting tactics as needed to achieve victory. [REDACTED]

87. TMO commanders opposite NATO face complex command and control problems. The numbers and types of weapons available to them—from tanks to deep-strike bombers—permit them to simultaneously threaten enemy targets from the East-West German border to the English Channel. [REDACTED]

88. The Soviets have developed the concept of the integrated fire destruction of the enemy for more effective use of firepower with maneuver forces. Use of different fire assets—artillery, missiles armed with conventional warheads, and aircraft—must be carefully coordinated. At the division level, for example, the commander must blend helicopters, artillery, and tank fire to influence the immediate battle, while at the TMO level deep air and missile strikes ranging over hundreds of kilometers must complement cannon and rocket bombardment in support of initial ground assaults. [REDACTED]

89. The Soviets appear to be experimenting with control solutions to complex, all-arms, joint-service operations. They are apparently searching for the proper mix and membership—to be drawn from the various general purpose forces—of integrated planning staffs at all echelons. The prerogatives, roles, and command links between staff and command personnel will slowly be worked out in the years ahead. [REDACTED]

90. The Soviets also appear to be experimenting with a significant adjustment in the use of their forces in the western USSR in a campaign against NATO. They are probably considering the deployment of some of these forces to the first echelon in Eastern Europe before the onset of hostilities. In the past they were to become available only after as much as one week of hostilities. These adjustments may foreshadow a major rethinking of operational plans for the Western TMO and may reflect important changes in Soviet thinking about the NATO threat and the correlation of forces. The Soviets may believe, for example, that NATO defenses are, or will soon be, so improved that they must provide more combat force and firepower to breach them. The Soviets may also feel that early movement of second-echelon forces could complicate the targeting of these forces by NATO's deep-strike

## Operations

[REDACTED] Their most significant operational adjustment, affecting all general purpose forces, is a shift of land battle management and control from the front to the theater level with centralized command entrusted to a Ground Forces officer. The TMO commander and his staff devise a single concept of operations, synchronize the combat

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weapons. Finally, the Soviets apparently realize that, as the remainder of the Warsaw Pact lags further behind them, their East European allies are becoming less capable of accomplishing first-echelon missions and must be augmented or replaced by Soviet forces.

91. New roles for Soviet second-echelon forces would, however, require "not-ready" divisions in the western USSR to make major improvements in their peacetime status. In the past several years, many have received modern equipment—such as T-72 tanks and self-propelled artillery—and adopted new divisional organizations not generally found with low-priority units. However, unless the Soviets change the manning and training levels of these divisions—something we do not currently foresee—these units will need substantial mobilization and training before they are suited for demanding first-echelon operational roles. In any case, early forward movement of these forces almost certainly will provide increased warning to NATO.

#### Tactics

94. The emphasis on high maneuverability has led the Soviets to develop air assault tactics as a way to leapfrog defenses and add depth to the tactical battlefield. Since 1980 they have formed at least 20 front- and army-level air assault brigades and battalions capable of parachute assault and heliborne airmobile assault. Division-level units are also being trained in airmobile tactics.

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95. Airborne and air assault operations of varying scale would have important roles in Soviet efforts to disrupt NATO's defense.

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Combined-arms commanders down to division are now expected to train in the complex air-ground coordination needed to insert, protect, and supply airmobile units operating in advance of main-force units.

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96. We expect the Soviets to further refine their concepts and develop their forces for airmobile operations throughout the projection period. Air assault battalions will be added to selected armies, particularly opposite NATO, and additional helicopters will become available to army and division commanders.

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#### Organization

97. The Soviets are reorganizing their Ground Forces units to protect and complement the tank. They are restructuring their combat divisions—where the vast bulk of their tanks are located—to provide maneuver unit commanders with a balanced, lethal array of mobile weapons needed to conduct combined-arms operations against NATO antiarmor forces.

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98. In the current divisional reorganization, which began in earnest in 1980, the typical tank regiment has acquired a fully tracked motorized rifle battalion, rather than a company, tripling its infantry assets. The tank regiment is also tripling its organic artillery assets by adding a battalion of armored self-propelled artillery able to keep pace with tank forces. In addition,



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the artillery regiments of both tank and motorized rifle divisions (MRDs) are increasing their battery size by one-third and converting to self-propelled models, and helicopter detachments are being upgraded to squadrons by the addition of attack helicopters. Currently only one motorized rifle regiment (MRR) in most motorized rifle divisions is equipped with tracked infantry fighting vehicles (IFVs)—which the Soviets call BMPs—while the other two have wheeled armored personnel carriers (APCs). Five MRDs, however, have recently been reorganized with two regiments of BMPs (IFVs) each in the GSFG. If this presages more widespread fielding of the BMPs in place of wheeled APCs it would be expensive and increase maintenance requirements, but would give Soviet MRDs increased firepower and protection, as well as cross-country mobility more comparable to that of tank divisions (see figures 7 and 8).

99. The recent organizational changes will now require divisional and regimental commanders to become true combined-arms commanders. They will have to master planning and control procedures needed to integrate their fire assets with maneuver. Pact open writings now stress the new combined-arms skills required of tactical commanders. Nonetheless, the Soviets must still make major adjustments to permit their lower-level commanders to master their combined-arms organizations. Division and regimental commanders, for example, do not appear to have adequate staffs, communications, or reconnaissance support to coordinate air-ground tactics and to exploit all the weapons now at their disposal.

100. We believe that the current organizational trends in divisions opposite NATO will require at least the remainder of the decade to complete. They probably will not be completely implemented throughout the force, however, during the projection period.

In the 1990s, therefore, we anticipate yet another series of organizational changes, as new weapons are introduced and steps are taken to implement further development in military art.

101. The Soviets have a new, large maneuver organization the new-type army corps. This new corps bears a resemblance to the large US and West German divisions and would have a wartime authorized strength of over 20,000 men. As currently organized, the corps has two mechanized brigades and

two tank brigades, plus other combat, combat support, and combat service support elements (see figure 9). The organization may be expanded during the projection period to a five-brigade structure. Each tank and mechanized brigade has four combined-arms battalions, each with five companies. We expect more to be formed. There are none with non-Soviet Pact forces, nor do we expect any.

102. The new-type army corps should be capable of a variety of combat missions. It is fully mechanized, capable of performing offensive operations behind enemy lines. Its balanced inventory of tank, artillery, infantry, and air defense weapons is well suited to the independent missions often temporarily cut off from support by main forces. It appears, however, to lack reconnaissance and logistic support necessary to conduct extended independent operations, although these may be attached to the corps as needed.

103. The Soviets appear to be testing new concepts for grouping fire support weapons, target acquisition systems, and automated command systems to counter US high-technology weapons derived from the "assault breaker" programs<sup>2</sup> employing precision-guided, theater-level, deep-strike systems.

104. These concepts are further expressions of the Soviets' belief in integrated fire destruction of the enemy. Their weapon systems are short-range ballistic missiles (SRBMs), cannon and multiple rocket launchers (MRLs). It is too early to forecast the outcome of these experiments, and the Soviets may modify or abandon them. They will probably encounter difficulties in providing timely target acquisition and responsive fire. Nevertheless, these concepts embody the Soviet commitment to integrated, long-range, conventional firepower as one of the key ingredients in their nonnuclear operational art.

105. In their quest to improve conventional firepower, the Soviets have also expanded nondivisional cannon and SRBM units. Artillery battery sizes are increasing by one-third, and many units opposite NATO are converting to self-propelled models. The sizes of army- and front-level SRBM units are also increasing by one-third in areas opposite NATO. Collectively, these increases will provide large forces that can be quickly concentrated to provide massed fire to cover assaults throughout the front's zone of operations and which are mobile enough to accompany fast-moving maneuver units.

<sup>2</sup> "Assault breaker" is the generic term used by the Soviets to describe all deep-attack weapons.

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**Figure 7**  
**Principal Changes Resulting From the Reorganization**  
**and Modernization of a Ready Motorized**  
**Rifle Division<sup>a</sup>**

**3 motorized rifle regiments (MRRs)**

Motorized rifle regiment		Ratio of wheeled- to tracked- armored-vehicle-equipped regiments changing from 2:1 to 1:2.
3 motorized rifle battalions (MRBs)		MRB equipped with infantry combat vehicles (BMPs) expanded to 42 BMPs.
		MRB equipped with armored personnel carriers (BTRs) expanded to 50 BTRs.
Tank battalion (TB)		
Artillery battalion		Self-propelled (SP) artillery replaced towed artillery in artillery battalion of MRR.
Tank regiment (TR)	3 tank battalions (TBs)	
	Artillery battalion	Towed-artillery battalion added to TR.
		SP artillery replaced towed artillery in TR artillery battalion.
Artillery regiment	Multiple rocket launcher battalion made subordinate to artillery regiment.	
	122-mm towed and SP howitzers replaced by 152-mm SP howitzers.	
Reconnaissance battalion		Tanks, BMPs, and BTRs added to reconnaissance battalion.
Helicopter squadron		Helicopter detachment upgraded to squadron with 10 to 12 more helicopters.

<sup>a</sup> Chart shows only those units affected by changes.

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**Figure 8**  
**Principal Changes Resulting From the Reorganization**  
**and Modernization of a Ready Tank Division<sup>a</sup>**

**3 tank regiments (TRs)**

<b>Tank regiment</b>		
<b>3 tank battalions (TBs)</b>		
<b>Motorized rifle battalion (MRB)</b>		Motorized rifle company in each TR expanded to a battalion with 42 infantry combat vehicles (BMPs).
<b>Artillery battalion</b>		Towed artillery battalion added to each TR.  Self-propelled (SP) artillery replaced towed artillery in TR artillery battalion.
<b>Motorized rifle regiment (MRR)</b>	<b>2 motorized rifle battalions (MRBs)</b>	Third MRB in MRR disestablished. <sup>b</sup>  Each BMP-equipped MRB expanded to 42 BMPs.
	<b>Tank battalion (TB)</b>	TB reduced to 31 tanks.
	<b>Artillery battalion</b>	SP artillery replaced towed artillery in MRR artillery battalion.
<b>Artillery regiment</b>		Multiple rocket launcher battalion made subordinate to artillery regiment.  122-mm towed howitzers replaced by 152-mm SP howitzers.
<b>Reconnaissance battalion</b>		Tanks, BMPs, and armored personnel carriers (BTRs) added to reconnaissance battalion.
<b>Helicopter squadron</b>		Helicopter detachment upgraded to squadron with 10 to 12 more helicopters.

<sup>a</sup> Chart shows only those units affected by changes.

<sup>b</sup> We believe these are interim developments. When sufficient equipment becomes available we expect the third MRB to be reestablished.

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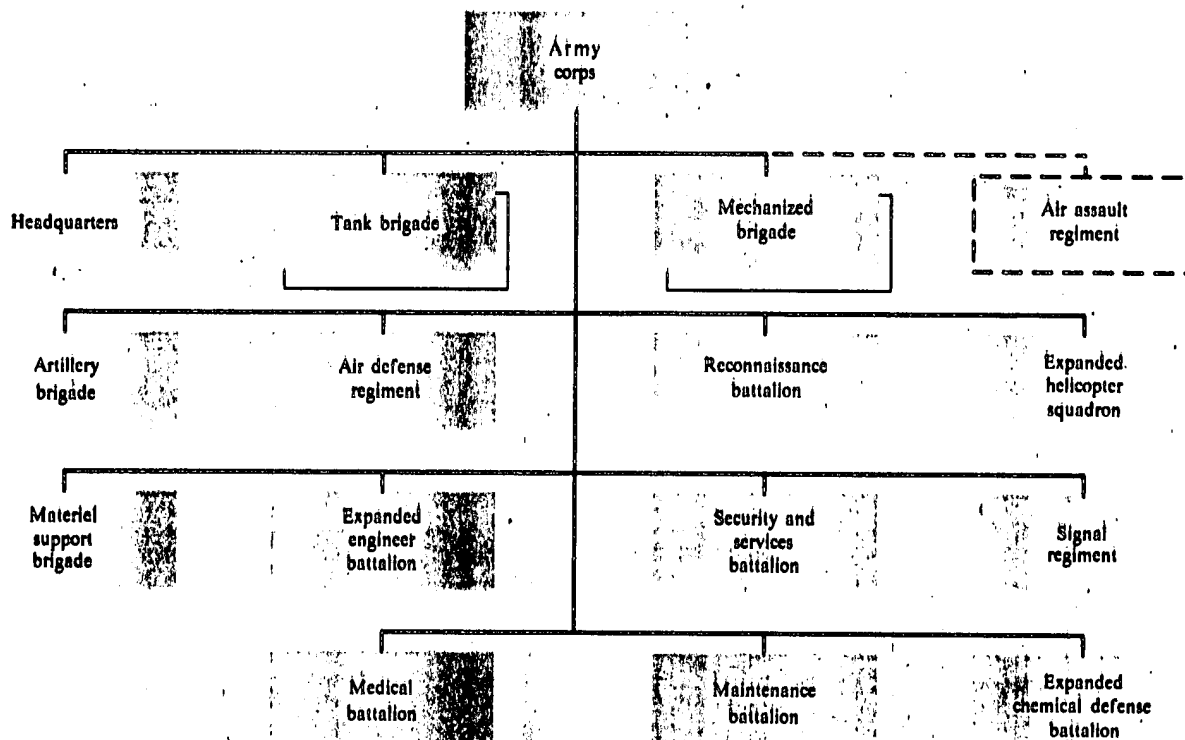
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**Figure 9**  
**Projected Structure and Equipment for**  
**New Army Corps**



#### Manpower and Major Items of Equipment

20,450 personnel	36 152-mm SP howitzers
372 tanks	18 152-mm SP howitzers
636 BMP infantry fighting vehicles (IFVs)	128 120-mm SP gun/mortars (BMD)
64 ZSU-23-4 self-propelled (SP) antiaircraft guns	96 120-mm SP gun/mortars (MTLB)
32 SA-8 surface-to-air missile (SAM) launchers	72 BM-21 or GRAD 1 multiple rocket launchers (MRLs)
18 SA-11 SAM launchers	18 BM-27 MRLs
64 SA-13 SAM launchers	36 BMD IFVs (in air assault regiment)
189 SA-14 SAMs (hand-held)	20 attack helicopters
72 122-mm SP howitzers	

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### The Reconnaissance Strike Organizations

The Soviets are developing and probably testing the concept of a reconnaissance strike system (RSS) and a reconnaissance fire system (RFS). They do not appear to have standard organizations but are temporarily tailored task groups for specified fire-support missions. Their organizations can include artillery and multiple rocket launchers (MRLs)—as in RFSs—or surface-to-surface missiles—as in RSSs—integrated by an automated control system and reconnaissance assets, including helicopters. The weapon systems constituting them may be drawn primarily from army and front units. Units are not colocated but linked by the automated command system.

have apparently always been limited to cannons and MRLs. The Soviets will probably further experiment with the complexes' composition and organization in the years ahead.

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Little is known about the employment of reconnaissance assets in support of the RSSs. It is unknown whether they will have an organic reconnaissance capability, or receive existing reconnaissance assets from available theater reconnaissance units. The role of helicopters has yet to be fully identified. They could act in a reconnaissance role and may function as airborne command posts.

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These organizations are quite likely means to counter new NATO high-technology battlefield systems. The Soviets' concern for the security of their follow-on forces in a conventional environment centers around the threat posed by US and NATO long-range systems capable of delivering precision-guided munitions or submunitions on massed combat formations. Soviet open-source writings have expressed a high level of concern for the threat posed by these systems.

RSSs will probably appear only at front and army levels. It appears that the RFS is formed only at division level. The RFS probably is composed of tube artillery and rocket launchers drawn from organic or attached division assets, and may be confined to operations within a division's area of responsibility. The Soviets may continue to experiment with the organization, missions, and subordination of both organizations, and such testing may continue for some time in the future.

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The Soviets recognize that reliable reconnaissance followed by rapid dissemination of target information to firing units is a difficult challenge facing deep-theater-target systems that has not yet been completely worked out. We expect further experimentation as the Soviets attempt to concentrate long-range conventional integrated ground fire on NATO theater targets.

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The composition of Soviet reconnaissance strike systems is evolving over time. At first they possessed short-range ballistic missiles (SRBM), cannon, and MRL assets; more recently, only SRBMs have been included. RFSs

### Weapons

106. The Warsaw Pact ground forces are fielding new weapons of virtually every type ranging from tanks to air defense guns. (See figure 10.) Forces in the Western TMO historically have been the first to modernize. We expect no change to this pattern.

sition process. Although there are often problems in the development of weapons and difficulties in meeting production goals and schedules—which result in delays in deployment—Soviet force planners are able to develop long-range force goals knowing roughly when and in what numbers new weapon systems will be available.

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107. Weapon designs in the ground forces must be compatible with operational requirements for high-speed maneuver warfare, lethal firepower, reliability, and survivability. Soviet weapon designs are generally standard throughout the Pact, but the drive toward standardization is often frustrated by the fielding simultaneously of several generations of Soviet weapons within the same force. This complicates logistic, training, and operational planning. As Soviet weapons become more expensive and complex, the rate of equipment modernization and integration into Pact forces may slow somewhat.

### Armor

109. The tank will remain the primary maneuver weapon in the Soviet combined-arms inventory for the remainder of this century. Although the Soviets are aware of its vulnerabilities, there is no evidence that they will deemphasize its importance. To do so would destroy their offensive ground doctrine and tactics. Instead, they are expanding the research, development, and production facilities that have been associated with tank programs. Moreover, they have made such a heavy investment in tank forces that replacement would require an enormous expenditure.

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108. Soviet weapons development and acquisitions follow a discernible pattern because of the programmatic nature of the Soviet weapons-acqui-

110. The Soviets now are supplying three new models to their tank units: the T-64B, the T-72

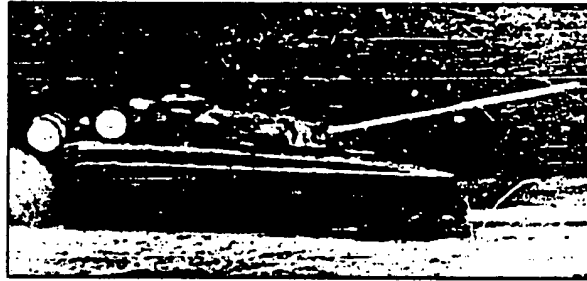
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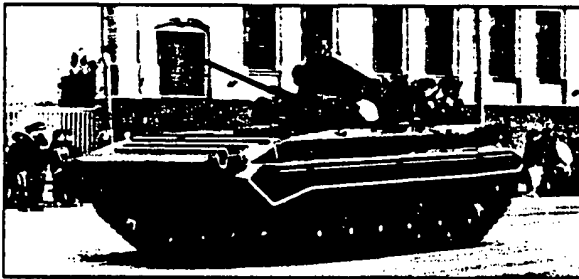
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Figure 10

Selected Ground Force Equipment of the Soviet General Purpose Forces



T-80 Latest Soviet main battle tank



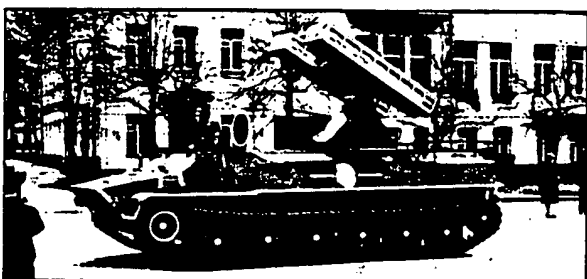
BMP-2 Newest infantry fighting vehicle



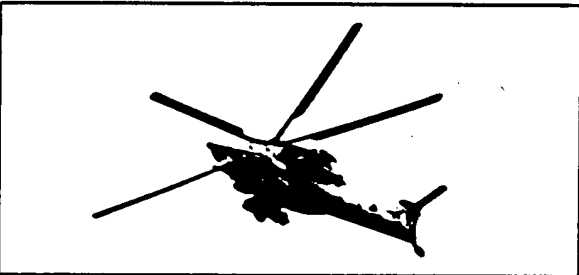
SS-21 Mod 2 Newest divisional tactical surface-to-surface missile



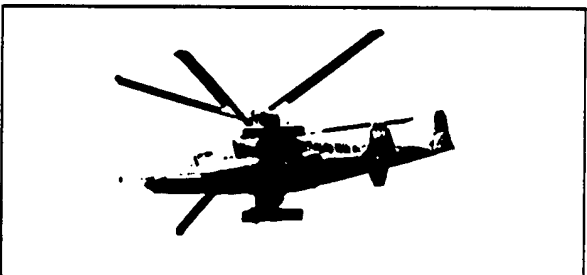
2S5 M-1981 Latest nondivisional 152-mm self-propelled gun



SA-13 Regimental air defense weapon



Havoc A Attack helicopter



Hokum A Attack helicopter

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M-1981/3; and the T-80, which combines features from both the T-64 and T-72 series but is still part of the same second post-World War II generation of tanks. The T-64B and the T-80 have the capability to fire long-range antitank guided missiles (ATGMs) through their main guns (see figure 12). Non-Soviet forces have only received the T-72 in small numbers.

111. We expect the Soviets will field a new tank design or designs by the late 1980s to meet the challenge they perceive from NATO's programed antiarmor forces. Future Soviet tanks could simply use evolutionary improvements—principally in the form of new and better armor, electronic protective devices, and more powerful engines—to counter the anticipated threat. This would require the Soviets to continue to improve technically advanced armors by 1990 and simultaneously to develop new engines to drive somewhat heavier vehicles. Because the Soviets have an extensive basic and applied research establishment that is not significantly dependent on Western technology, they probably can achieve these goals.

112. Tentative evidence suggests, however, that the Soviets may be working on a radical new tank design (see figure 13). [ ] a tank with a reduced-volume turret or a turretless

model mounting its main gun on a pedestal or some similar arrangement. If the Soviets decided to put such a vehicle into serial production, this could provide a solution to the classic design dilemma of providing superior armor protection while keeping vehicle weight low and battlefield mobility high. Such a design probably would not call for the development of a radically new type of armor, nor would it require a more powerful engine. [ ]

113. The Soviets could opt to follow a two-design strategy. Such an approach would allow them to undertake the higher risk development of a turretless or reduced-volume-turret design while also developing a more traditional turreted tank as a backup. The Pact will also strive to compensate for weaknesses in its current tank generation and will probably modernize thousands of its T-55 and T-62 tanks that will remain in the inventory through the year 2000 (see figure 14). Improvements to newer tanks will include better fire-control systems, supplemental armor, and improved stabilization systems; older tanks could receive more powerful engines, new guns and perhaps improved fire-control systems. [ ]




114. Soviet emphasis on maneuverability and combined arms requires infantry troops to keep pace with tank units. Pact forces field a wide variety of armored

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**Figure 12**  
**Latest Soviet Tanks**

	Armament	Armor	Weight	Year of Introduction
T-64	125-mm smoothbore gun	Laminate	38 metric tons	1970
				
T-72	125-mm smoothbore gun	Laminate	41 metric tons	1974
				
T-80	125-mm smoothbore gun	Laminate	Over 40 metric tons	1983
				

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personnel carriers and infantry fighting vehicles to provide the infantry with necessary mobility and protection. The tracked BMP-2 and the wheeled BTR-70 are now entering Soviet and Pact forces and will become new standards. We expect follow-ons to both models in the 1990s (see table 5).

#### Artillery

115. In addition to its nuclear capability, concentrated artillery fire with modern improved conventional munitions and extended range offers unprecedented destructive power. The Soviets are increasingly fielding self-propelled artillery—especially at division level—thus providing artillery units with high maneuverability and survivability (see figure 15).

116. The current Ground Forces reorganization is producing a requirement for more artillery than current production rates can sustain. We expect production rates for modern self-propelled artillery to be increased because such models are critical to high-tempo offensive plans. Nonetheless, in many cases much older, towed equipment will be used to reach expanded organizations, and this situation will prevail with Soviet forces in the USSR until well into the 1990s. Priority for the acquisition of new self-pro-

pelled artillery pieces will go to units opposite NATO. Table 6 indicates the large array of divisional and nondivisional artillery and rocket launchers the Soviets probably will field in the coming years.

117.

They may field new artillery munitions with impressive range, accuracy, and lethality. These munitions could include: terminally guided artillery shells, rocket- and missile-delivered cluster warheads, rocket-delivered fuel-air explosives, antitank and antipersonnel mines and bomblets, and rocket-assisted extended-range artillery shells. For conventional fire the Soviets still rely on area saturation bombardment rather than precision gunnery controlled by forward observers. Increases in the number of artillery weapons and the new munitions available to tactical commanders could make massed firestrikes even more destructive, but would complicate fire planning and coordination, and the timely movement of expanded artillery and logistic units needed to support infantry and tank forces.

#### Air Defense Weapons

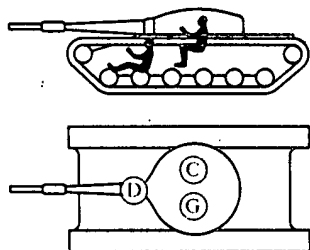
118. The widely deployed current generation of Soviet air defense weapons have good mobility and



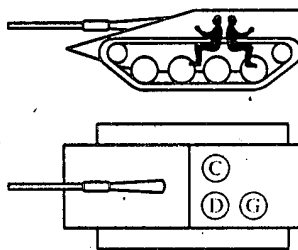
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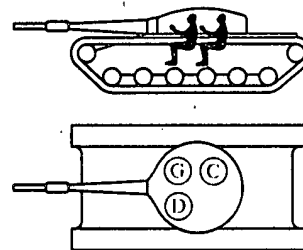
**Figure 13**  
**Future Soviet Tank Design Options**



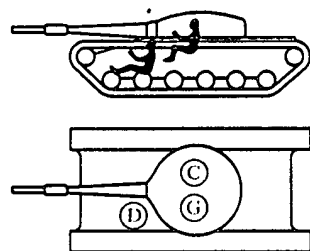
Turret tank with separated placement of crew (driver in hull, commander and gunner in turret)



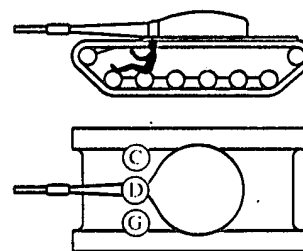
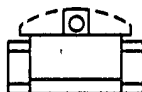
Turretless tank



Turret tank with crew in turret



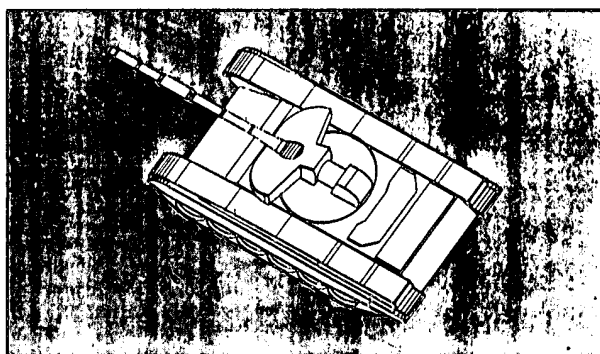
Reduced-volume-turret tank with crew separated (driver in hull, commander and gunner in turret)



Reduced-volume-turret tank with crew forward in hull

Illustrations from Soviet text depicting selected tank design options

Artist's conception of possible prototype of reduced-volume-turret or elevated-gun tank   
 (A serial production version probably would not be available until the early 1990s.)

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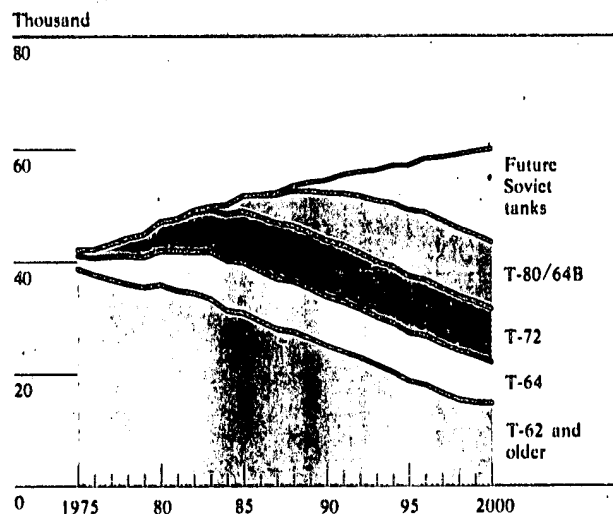
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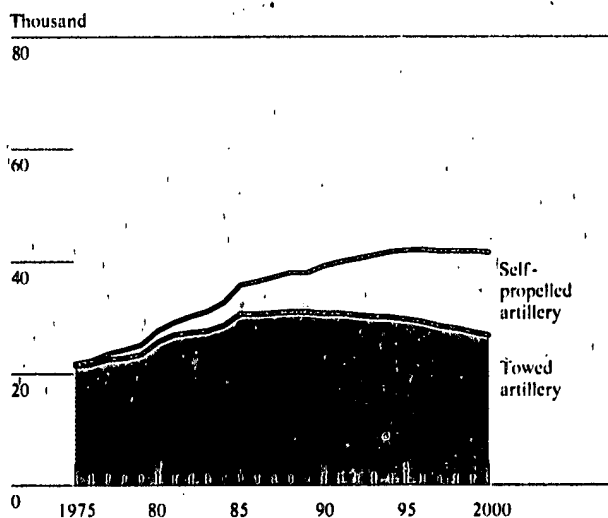
**Figure 14**  
**Trends in Composition of Soviet**  
**Tank Force, 1975-2000**



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**Figure 15**  
**Trends in Composition of Soviet**  
**Artillery Force, 1975-2000**



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**Table 5**  
**Soviet Light Armored Vehicles**

	Year of Initial Troop Trials	Year of Initial Deployment	Period of New Deployments
BMP-1	1967	1970	1981
BMP M-1981	1980	1981	1991
New IFV Design	1989	1992	After 2005
BMD-1	1967	1970	1986
BMD 30-mm	1984	1986	1991
BMD follow-on	1989	1992	After 2005
BMD M-1979/1	1978	1979	1986
BMD M-1979/1 follow-on	1989	1991	After 2005
BTR-70	1979	1979	1988
BTR-70 follow-on	1987	1989	After 2005
BMP M-1976	1976	1976	1996
BMP M-1976 follow-on	1985	1997	After 2005
BRDM-2	1966	1966	1990

provide effective air defense coverage. However, these systems have limited multitarget engagement capabilities. We expect a follow-on generation of army- and division-level surface-to-air missiles and air defense guns that will have improved low-level capabilities, multiple target capability, and improved range. As with other systems, priority for deployment will go to units opposite NATO where the threat is most severe.

#### Short-Range Ballistic Missiles

119. As the Soviets have developed their conventional war-fighting strategy, the role assigned to their tactical missiles has grown considerably. Once used almost exclusively for nuclear delivery, older, short-range and relatively inaccurate FROG rockets and Scud missiles are being replaced by improved versions or by new follow-on missiles able to deliver improved conventional warheads [REDACTED] accurately at extended ranges. According to one Intelligence Community view, the Soviets are fielding an improved version of the Scud—one that has better range (500 vs 300 km) and better accuracy than the Scud-B. Many older FROGs and Scuds remain in the force and will

**Table 6**  
**Soviet Field Artillery**

	Year of Initial Troop Trials	Year of Initial Deployment	Period of New Deployments
BM-21 FO	1985	1987	After 2005
Grad-1 truck	1975	1976	1996
Grad-1 MTLB	1984	1986	1996
Grad-1 follow-on	1994	1996	After 2005
BM-27	1975	1977	1998
BM-27 follow-on	1996	1998	After 2005
Airborne multiple rocket launcher (MRL)	1973	1975	1998
Airborne MRL follow-on	1996	1998	After 2005
D-30 follow-on	1990	1992	After 2005
122-mm self-propelled (SP) howitzer	1972	1974	1991
122-mm SP howitzer follow-on	1989	1991	After 2005
D-20 follow-on	1985	1987	After 2005
152-mm SP howitzer	1971	1973	1992
152-mm SP follow-on	1990	1992	After 2005
152-mm towed gun	1974	1976	1996
152-mm towed gun follow-on	1994	1996	After 2005
152-mm SP gun	1977	1979	2000
152-mm SP gun follow-on	1998	2000	After 2005
203-mm SP howitzer	1973	1975	2005
203-mm SP howitzer	2003	2005	After 2005
Podnos	1979	1981	After 2005
Vasilek	1972	1974	After 2005
Anona-S	1979	1981	After 2005
Anona-SV	1982	1984	After 2005
Sani	1979	1981	After 2005
2S12	1983	1985	After 2005
240-mm SP mortar	1973	1975	2005
240-mm SP mortar follow-on	2003	2005	After 2005

continue to do so through the 1990s. Opposite NATO, however, the Soviets will replace older rockets and missiles with SS-21 and SS-23 missiles by the early 1990s. [REDACTED]

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120. SRBMs may be used more in conventional integrated fire planning at all levels from division to front. Missions could include destruction of air defense systems in conjunction with air operations, and deep strikes against command and control units and reserves in support of ground offensives.

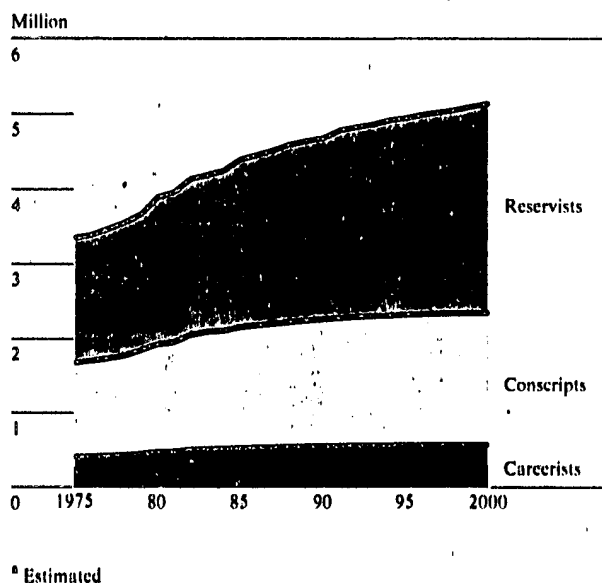
### Force Structure

121. The Soviets will continue to emphasize their need for a large standing army to supply the superior force ratios they believe are necessary to overwhelm enemy defenses. Because of persistent manpower shortages, we foresee no acceleration in the growth of the Ground Forces. If current trends continue, we expect:

- A gradual increase in the large active divisional force. Since the late 1970s the Soviets have added an average of three low-strength divisions to their active force yearly. Most of this growth has resulted from the activation of "second formation" units—which we call mobilization bases—which are unmanned equipment sets.
- The upgrade of existing army corps—which consist of two or three divisions and limited support units—to full army status by the addition of low-strength divisions and specialized combat support and service support units to these corps. Most of this growth will occur in the southern and eastern portions of the USSR.
- The use of the new-type army corps organization

122. We estimate that by the year 2000 the Soviet Ground Forces will have grown to 234 divisions and nine new-type army corps. We expect virtually all of this growth to occur in the "not-ready" portion of the force, thus increasing Soviet reliance on reservists in wartime (see figure 17). According to one view, all existing mobilization-base divisions will be activated by the end of 1987, no others will be formed, and the Soviet Ground Forces will peak in 1990 at 210 active divisions and nine new army corps. This projection reflects fewer weapons after 1987 because it forecasts no additional mobilization bases. It notes, however, that

Figure 17  
Increasing Requirement for Reservists  
in Soviet Ground Forces, 1975-2000<sup>a</sup>



the Soviets have a sufficiently large reserve pool to man this force structure in the event of a general war.

123. The Soviets apparently continue to reconstitute their "second-generation" mobilization-base system. This reconstitution forms the basis for the further growth of divisional forces past the projection period. This would be consistent with an obsessive Soviet requirement for ever larger forces.

We expect that most of the growth in this sector of the Soviet Ground Forces has or will come opposite NATO's central region. In the past year the Soviets have established three missile brigades in Eastern Europe equipped with the SS-12 Mod 2 Scaleboard—ostensibly in response to NATO's deployment of the Pershing II missile. The Soviets may reconstitute the forward-deployed Scaleboard units at their home garrisons in the USSR, which would give a net increase of at least three such units by 1990. The Soviets may also increase their front- and army-level missile forces in the Western TMO by establishing additional Scud or SS-23 units. In addition, we expect the Soviets to

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establish additional nuclear-capable high-power artillery brigades opposite NATO, continuing two decades of force growth in this area. [REDACTED]

### Logistics

125. Organizational expansion, new operational concepts stressing continuous frontal operations, and new weapons with greater range and firepower have created unprecedented requirements for general purpose logistic support. The Soviets have responded with a sustained, unprecedented logistic buildup of ground and air supplies in Central Europe opposite NATO during the past decade (see figure 18). Their logistic buildup has outpaced requirements imposed by force modernization and expansion, and they apparently have in place logistics to support a force twice the size of their Soviet forces in Eastern Europe. This has been accomplished at the same time as a buildup of their supplies in the Far East Military District to keep pace with the growth of their conventional forces opposite China. These improvements will allow the Soviets to replenish successive front operations without pause and, opposite NATO, would permit the rapid early reinforcement of forces moving from the western USSR unencumbered by logistic trains. [REDACTED]

126. Warsaw Pact forces are also restructuring their combat support units to consolidate transport and logistic elements into coherent, efficient units called materiel support brigades (front and army level) or battalions (division level). These units permit centralized management of materiel supply handling and delivery functions and, in line with other trends to emphasize battlefield mobility, should facilitate rapid, responsive resupply to quickly advancing combat units. [REDACTED]

127. Recently the Soviets have also made a determined effort to improve their nuclear logistic posture opposite NATO. These moves increase the readiness of these forces and reduce warning time. [REDACTED]

### The CW Stockpile and Delivery Systems

[REDACTED]

[REDACTED] Current production is sufficient to replenish stocks, train production personnel, and provide test agents. We believe that the Soviets, even without activating all their plants, are capable of producing more than enough chemical warfare agents to fulfill their wartime requirements. [REDACTED]

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The Soviets continue to produce and stockpile a variety of chemical agents and munitions, give high priority to research and development of new or improved agents. [REDACTED]

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[REDACTED] Moreover, the improvements in the accuracy and reliability of current and future Soviet weapon systems further improve their capability to deliver all types of munitions, including chemicals. [REDACTED]

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These changes should shorten the time required for Soviet missile units in Eastern Europe to move from their garrisons in the event of a NATO attack. [REDACTED]

128. [REDACTED]

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[REDACTED] The Soviet Union also maintains chemical weapons stocks, though only limited numbers are believed to be in Eastern Europe (see inset). [REDACTED]

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Figure 18

## Soviet Logistic Buildup Opposite NATO

Soviet logistic preparations in East Germany are much greater than we had earlier estimated. We now judge that the USSR has substantially expanded its military logistic structure in Central Europe since the mid-1970s to support 60 to 90 days of combat. The Soviets appear to have enough combat supplies in East Germany to support more than twice their current force there in the initial phase of a campaign against NATO. The Soviets, however, still would need to move in troops to fill out rear service units in East Germany.

The Soviets have provided the key support services to their troops in East Germany far beyond amounts expected for forces of such size. These categories include ammunition and fuel, medical service, and equipment repair. Most growth occurred after 1976 through systematic construction and expansion.

During the past decade in East Germany, the Soviets have:

- Built seven front-level fuel depots and expanded the other 34. They now have fuel storage facilities with a capacity to hold 600,000 metric tons.
- Constructed seven front-level ammunition depots and expanded the other nine. We believe their depots could hold 700,000 metric tons.
- Doubled the equipment available to form mobile equipment-repair units.
- Increased their mobile field hospitals from 37 to 65.
- Modernized motor transport units with new trucks built with Western technology and established a reserve of as many as 12,000 older trucks.

The logistic buildup lagged considerably behind the reorganization and buildup of combat forces and weapon systems, creating for a time the impression that the Soviets did not plan to maintain a substantial logistic capability in peacetime. We now believe, however, that the logistic buildup has far outstripped the pace of combat force increases, and that it reflects the Soviets' long-range planning to gradually implement their force improvement programs.

**Advantages to the Soviets.** We judge that the Soviets intend much of this logistic buildup as forward-

deployed stocks for forces in their western military districts. This systematic investment in service support reduces the Soviets' need to encumber their lines of communication before hostilities with bulky, vulnerable supplies. This would facilitate the rapid movement to the forward areas of combat units from the USSR intended to participate in the initial campaign of a war against NATO.

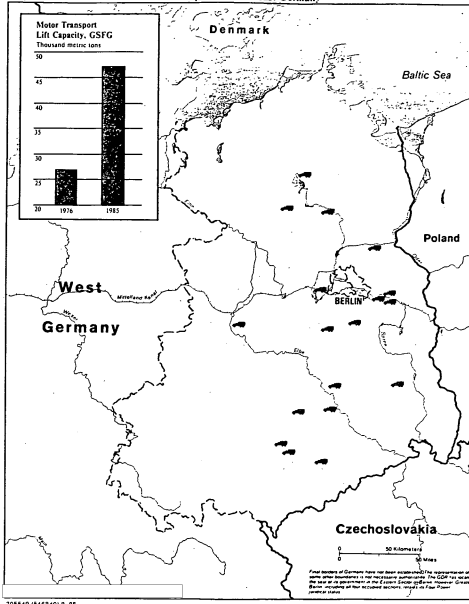
The Soviets now have the flexibility to conduct operations by forces of the Western Theater of Military Operations even if supply lines were cut or some stocks were destroyed early in a conflict. In addition, the USSR could use stocks already in Eastern Europe to supply units of the second strategic echelon that were moved from the western USSR to reinforce or exploit initial successes by the Warsaw Pact.

**Remaining Weaknesses.** Warning indicators associated with the movement forward of supplies from the USSR before a conflict would be reduced, but not eliminated. To meet wartime requirements the Soviet service support structure in East Germany would have to be beefed out. This would require the transfer of additional units, as well as manpower, from the USSR for those understrength service support units already in place. The manning requirements for this augmentation are estimated by the Central Intelligence Agency to be slightly over 100,000 and by the Defense Intelligence Agency at about 95,000. (These figures take account of front and army service support requirements, of requirements for the Group of Soviet Forces in Germany (GSFG), and of the provision by East Germany of a portion of front service support.) In addition, CIA estimates about 40,000 troops (DIA estimates 25,000) would be required to bring Soviet combat divisions in East Germany up to full wartime authorization.

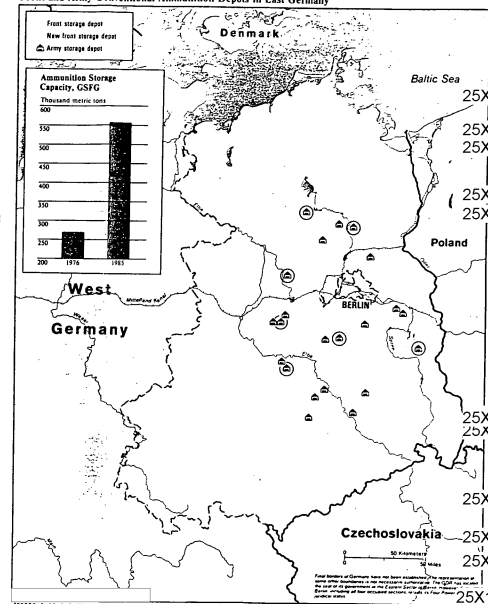
These troops could be moved quickly to the forward area in a crisis. There could be some initial confusion, however, as units that had never trained at full strength were filled out and as supplies were moved from depots to combat units. Moreover, stocks not rapidly removed from facilities at the outbreak of hostilities would be vulnerable to attack.

Since most of the new facilities are concentrated south of Berlin, they are not positioned to support Warsaw Pact forces that would operate in northern East Germany. Those forces might still require resupply from Poland or the USSR.

## Major Soviet Nondivisional Motor Transport Units in East Germany



## Front and Army Conventional Ammunition Depots in East Germany

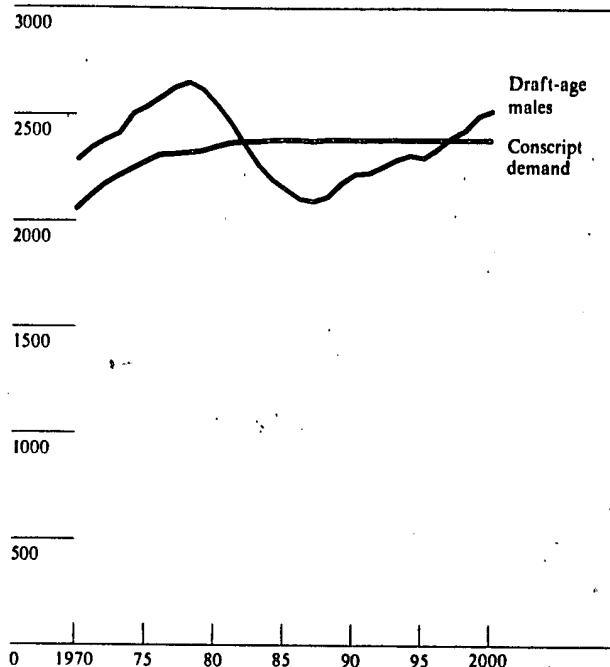


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Figure 19

USSR: Conscript Demand and Draft-Age Males, 1970-2000<sup>a</sup>

<sup>a</sup> Draft age is 18 through 26. Conscript demand for 1982 and later assumes that total military manpower remains constant.

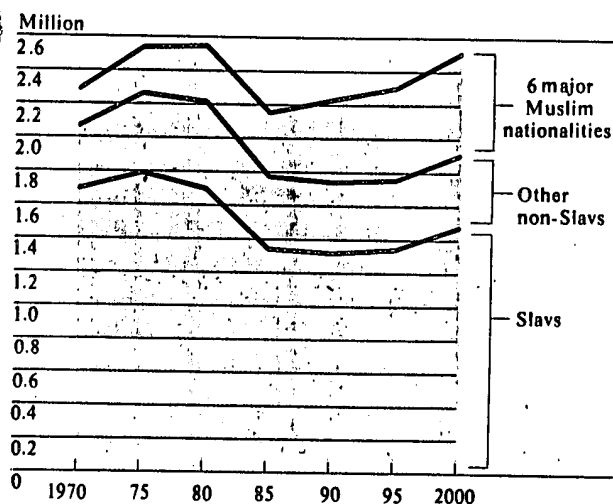
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### Manning and Readiness

129. Despite—indeed to some extent because of—organizational and equipment modernization trends that will significantly increase the combat potential of the Warsaw Pact, the Pact is actually becoming less ready to go to war quickly. Moscow appears to be trading force readiness for combat potential. At the heart of this apparent paradox has been tightened supplies of manpower, a trend that has clashed with the unit expansions the Soviets are trying to achieve. While the trend is beginning to improve, Soviet manpower shortages will persist through the late 1990s and have already led to substantial undermanning in even the most ready Soviet combat units. (See figure 19 and annex C.)

Figure 20

USSR: Ethnic Makeup of 18-Year-Old Males, 1970-2000



<sup>a</sup> Uzbek, Kazakh, Azeri, Tajik, Turkmen, Kirghiz.

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130. Because of manpower problems, the Soviets apparently imposed manning restrictions on their units by 1980—just as current organizational expansions were beginning in earnest. Even Soviet combat divisions in Eastern Europe were not exempt, and manning in those units dropped from about 90 percent of authorized wartime strength to between 80 and 85 percent. Percentage manning reductions apparently occurred in Soviet nondivisional support units and probably in some units in the Soviet Union as well. These shortages have been complicated by an increasingly large percentage of non-Slavs among available conscripts who—because of linguistic and cultural disadvantages—are not as quickly trained, especially on complex equipment, as are Slavic conscripts (see figure 20).

131. According to a division categorization system based on Soviet readiness concepts

the Soviets do not have any "full-strength ready" (NATO category A1) tank and motorized rifle divisions opposite NATO. Such divisions would require no mobilization and would be ready for offensive operations within 24 to 48 hours after an alert. Instead, even opposite NATO's Central Region, the Soviets would need to mobilize over 40,000 reservists to man their ready combat divisions alone. At least



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another 100,000 reservists would be needed to man nondivisional units (see figure 18 for DIA view). The most ready Soviet divisions in Eastern Europe now fall into the second readiness category used by the Soviets (NATO category A2).

Furthermore, reservists for some of these divisions probably would be mobilized in the western USSR and would then have to be moved into Eastern Europe to join their parent units. Operationally, these adverse readiness trends make it increasingly less likely that the Soviets would plan to mount a sudden attack without warning against NATO because of shortfalls in the preparations needed to conduct such a risky operation. Growing requirements to augment forward-area Soviet forces with reservists also should provide NATO with early strategic warning of increased combat readiness in Eastern Europe.

### Training

132. The demands imposed by organizational expansion, by increasingly sophisticated weapons, and by the new emphasis on complex combined-arms tactics have caused Warsaw Pact authorities to question traditional training and manning practices. All Warsaw Pact general purpose forces rely on conscripts, who are available for relatively short periods ranging from 16 months to 24 months. Ground force training has been criticized by the Soviets for:

- Inadequate development of individual and crew weapon skills.
- Ineffective training for night combat.
- Poor preparation of junior commanders, who are increasingly called upon to master combined-arms tactics.
- Lack of initiative and overreliance on stereotyped "school solutions" that are increasingly irrelevant.
- Poor maintenance skills, a failing that is becoming more serious as new, more complex weapons are fielded.

133. The Soviets and East Germans have developed novel training programs to correct these deficiencies. The programs require combat units to be manned by soldiers who are conscripted and discharged together after serving in the same unit for at least 18 months. In the past, because of the 18-month or two-year Ground Forces conscription cycle, all units discharged about one-quarter of their enlisted personnel and replaced them with untrained recruits every six months. Units

were consequently restricted to an elementary, repetitive six-month training cycle needed to train and absorb newcomers semiannually.

134. Under the new system, however, units are isolated from the disruptive semiannual induction of new recruits and, after formation, progress from individual to more complex tactical training without receiving any newcomers. During their first six months, all unit members master individual and simple crew skills. In the succeeding periods they conduct increasing amounts of combined-arms unit training and exercises. No time is spent repeating basic individual training as in the past; over the course of its training, a unit can spend three more months in the field than under the old repetitive training program. We do not yet know all of the details about how the Soviets and East Germans stagger the maturity levels of their units. However, we believe that, within infantry battalions, two companies are on the same cycle while the third is formed in the next cycle. Thus, when two of the three companies peak, the battalion is at its peak efficiency. However, when both of these companies are then disbanded, the third company is in its final training period and provides the battalion as a whole with residual combat capability. Within tank regiments, each battalion is apparently on a different cycle—thus there is always one battalion newly forming while another is in its peak training period.

135. The new program apparently has been adopted by all 19 Soviet divisions in East Germany, and we estimate that it will be used by all 30 Soviet divisions in Eastern Europe. We cannot yet tell how extensively the program has spread within the Soviet Union, but it is likely to spread to all Soviet ready divisions within the next 10 years. Apparently only the East Germans, among non-Soviet Warsaw Pact forces, use the program.

136. We estimate that, if the Soviets and East Germans successfully exploit their new program, they can teach their better units and commanders to master a somewhat greater variety of combined-arms tactics than was possible using their traditional six-month training schedule. In addition, they should develop crews better able to use their weapons. This should make Soviet and East German combat units more competent on the battlefield and should help them realize the combat potential offered by the ongoing buildup and by modernization with more complex weapons of the conventional ground forces of both countries.

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## V. SOVIET AIR AND NAVAL FORCES

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## Air Forces

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They have modified their concepts for winning air supremacy and reorganized their air and air defense forces in the past several years and are fielding new-generation aircraft. In line with their insistence on integrated joint-service firepower, unified under TMO direction, they have assigned ground forces such as artillery and missile units and airmobile and air assault troops important complementary roles in the defeat of NATO air and air defense forces.

— A doubling since 1980 of the numbers of strategic aviation bomber regiments opposite NATO through the formation of additional SU-24 light bomber regiments. We project continued theater bomber force modernization with Fencer and Backfire aircraft.

— Upgrading of divisional helicopter detachments to full squadrons consisting of attack and transport helicopters. We anticipate this trend will extend to all ready divisions opposite NATO. We also expect that, as newer, more maneuverable attack helicopters become available, the squadron size will increase from six to 12 or possibly 18 attack helicopters to provide the division commander with greater aerial firepower. This trend supplements divisional growth of rocket and artillery conventional firepower and provides a highly maneuverable fire-support platform to supplement divisional combined-arms tactics.

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— As part of the general incorporation of army aviation, select armies received direct control of combat helicopter regiments to provide army commanders with organic, responsive aerial fire support. We expect this trend to continue opposite NATO and China. The growth and overall improvement of army aviation helps compensate maneuver unit commanders for the loss of fixed-wing ground attack aircraft support during the conduct of operations.

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## Organizational

139. The Soviets implemented a major reorganization of their Air Forces between 1979 and 1981 (see chapter II) as part of a larger set of changes emphasizing theater-level planning and control of joint-service strategic operations. The reorganization was designed to make more efficient use of available theater air assets, and to coordinate them with the combat actions of other services in the theater. Results of the reorganization have included:

- The continued growth in the number of fighter-bomber regiments opposite NATO and China and along the southern periphery of the USSR. Since 1980 four new ground attack regiments have been created and 14 former fighter regiments, along with four former training regiments, have been assigned a ground attack mission. These 22 units provide additional conventional firepower

## Operations

141. By 1981 the Soviets had created a new variant of the offensive air operation that would more modestly attempt to achieve temporary force advantages by

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concentrating individual massed air raids in sectors, rather than by attacking across the full width of the theater. This variant would permit the Pact to launch a ground and air offensive in the theater with only near parity in the overall theater air balance. The rapid concentration of air forces to achieve such overwhelming local force superiority was made feasible by the expansion of the strategic aviation bomber force. It was also facilitated by the formation of the TMO high commands. [ ]

142. By the early 1980s the Soviets perceived that a successful offensive air operation for air supremacy would consume a substantially greater share of their war effort in the Western TMO than they had previously estimated. Despite the massive modernization of their Air Forces during the 1970s, the Soviets concluded that six to eight massed air raids would have to be conducted over a period of three to five days to achieve air supremacy—rather than the three massed raids in one-and-a-half days that they had planned for during the mid-1970s. Air Forces ground attack firepower was increased for each massed air raid of the air operation in the Western TMO by giving top priority during the early 1980s to modernizing the theater bomber forces opposite NATO and by increasing the fraction of front aviation dedicated to the ground attack role. Moreover, the Ground Forces artillery and missile forces were given an increased role in the suppression of NATO air defense forces in the air operation. We believe that in the future the SRBM forces armed with improved conventional munitions will supplement aircraft in the airbase attack role once the projected terminal guidance systems are widely deployed. [ ]

144. The Soviets prefer to take the initiative with an air operation of their own timing and in sectors of their own choice. Yet they fear that their air offensive plans could be disrupted by a preemptive NATO offensive counterair campaign. Consequently, they have established an entirely new operation—the so-called air defense operation<sup>2</sup>—to complement the offensive air operation. The Soviets believe that the air defense operation is the most appropriate form of air combat for the Warsaw Pact if NATO seizes the initiative in the air war. [ ]

[ ] an air defense operation would combine a near-maximum air defense effort with numerous small-scale airbase attacks. Its purpose would be to blunt the NATO air offensive and destroy enough NATO aircraft to create a substantial Pact advantage in the air balance, thereby allowing the Pact to seize the initiative with an offensive air operation of its own. [ ]

145. The air defense operation is a TMO air-ground-naval combat operation. It probably would involve 3,000 to 4,000 fixed-wing aircraft under TMO control drawn from Soviet and NSWP air forces and naval aviation covering all air and sea approaches to the theater. This complex defensive operation would doubtless be carefully coordinated with ground-based surface-to-air missile defenses and Ground Forces artillery and missile fire designed to suppress NATO air defenses within system range. [ ]

146. The Soviets probably will encounter numerous command and control problems in attempting to efficiently manage complex air defense operations. They have made major changes since 1981 to solve potential problems, and we anticipate more. By far the most important change has been the transfer of air and air defense force operational planning and control authority from the Soviet Air Forces Main Staff and

<sup>2</sup> The Soviets use the term "air defense operation" specifically to refer to the type of TMO-wide operation that would be conducted in the air war jointly by the Air Forces and the Air Defense Forces when the enemy holds the strategic initiative in the air. The Soviet conception of an air defense operation is a centrally directed combination of defensive and offensive activity on a massive scale. This term should not be mistaken for a generic Western-style reference to routine independent air defense activity in the various regional air defense sectors. [ ]

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the multitude of regional air defense commands to the Air Forces and Air Defense Forces deputy CINCs of the TMO high command. For the first time this integrates air and air defense activity at the TMO-level commands. [ ]

147. In the future the Soviets will work to ease their command and control problems by increasing both the capacity and capability of their air communications and by the large-scale use of digital data communications systems coupled to onboard computers and displays. Changes we expect include:

- Airborne use of communications satellites, which will increase the range, capacity, and flexibility of air communications relative to present ground-based line-of-sight systems.
- Expansion of the number and types of aircraft with communications satellite capabilities.
- Millimeter-wavelength communications systems—an area of Soviet technological strength [ ]—which could be available for air-to-air communications by about 1990 to provide range-limited but high-capacity data exchange communications within such formations as fighter attack groups.
- The use of direct broadcast satellites to enable aircraft to pass data to individual ground units over almost limitless range. [ ]

148. The Soviets recognize and are attempting to remedy serious problems threatening the success of their air supremacy campaign. These involve the following:

- Aircraft losses substantially higher than anticipated could prevent the Pact from decisively winning the air supremacy battle of attrition and force early cancellation of the offensive air operation. To avoid such losses the Soviets must suppress NATO's improving air defenses. Moreover, the proliferation of hardened aircraft shelters at NATO airbases would force the Soviets to concentrate on closing runways, and possibly destroying support facilities. This would require more air raids over a longer period of time and hence greater exposure to NATO air defenses.
- The Pact's deep-attack capabilities are limited by its current fighters as well as by pilot training. This restricts its ability to protect attack forces.
- The Pact currently lacks the capability to conduct large offensive operations at night or in adverse weather.

— Pact air forces have a limited capability to find NATO's concealed mobile surface-to-surface missiles (SSMs)—yet we believe the Pact probably will plan to divert many more aircraft from attacking airfields to hunting for SSMs because of the introduction of Pershing IIs and GLCMs.

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— Airspace management and staff coordination among the many force components and nationalities participating in large, complex theater air operations is very difficult.

— Acquisition of low-altitude targets is a major problem. However, the deployment of look-down/shootdown fighters, airborne warning and control system (AWACS) aircraft, and improved SAMs are expected to reduce these problems by the 1990s. [ ]

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#### Weapons and Munitions

149. The Soviets continue to field aircraft with improved range, avionics, payloads, and munitions—aircraft better adapted to conduct theaterwide offensive and defensive operations. They have also fielded their first AWACS aircraft, a modified Mainstay, which, when available in sufficient numbers, should enhance airborne theater battle management of air defense operations. Furthermore, they are just introducing a new generation of fighters which will have the escort range, avionics, flight characteristics, electronic warfare systems, and munitions required for independent air-to-air operations throughout the theater. The Soviets are also working on new fighters, attack helicopters, and higher capacity air transports. Primarily for cost reasons, the non-Soviet Pact members have only a few of the most modern Soviet aircraft and have generally been content to purchase new aircraft representing improved 1960s design technology. [ ]

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150. *Fighter-Interceptors.* The Soviet Air Forces have virtually ceased acquiring variants of MIG-23s and MIG-25s. These aircraft were a considerable improvement—particularly in onboard avionics, combat range, and payload—over their predecessors (see figure 21), but they are no match for NATO's newest aircraft. More than two-thirds of the Soviet fighter force consists of these aircraft, which, with improved radar and better missiles, have all-aspect attack capabilities against aircraft flying at similar altitudes. However, they have limited capabilities against targets flying below them. [ ]

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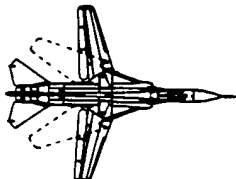
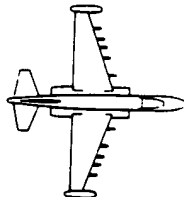
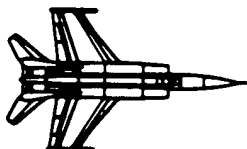
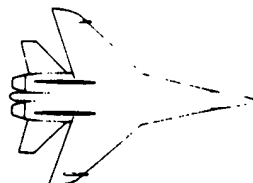
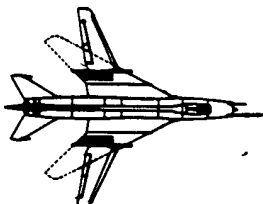
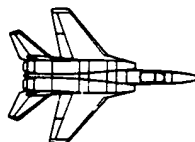
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**Figure 21**  
**Soviet Air Forces: Newer Combat Aircraft**

	Maximum Operational Radius	Maximum Payload	Maximum Speed	Year Operational		Maximum Operational Radius	Maximum Payload	Maximum Speed	Year Operational		
<b>MIG-23</b> Flogger B/G <sup>a</sup>	B 1,055 km with 6 AAMs/guns and 1 tank G 910 km with 6 AAMs/guns and 1 tank	2 metric tons	2,500 km/hr	1972/78		<b>SU-25</b> Frogfoot <sup>b</sup>	445 km with 4 250-kg bombs	4 metric tons	1,000 km/hr	1981	
<b>MIG-27</b> Flogger D/J <sup>b</sup>	815 km with 6 500-kg bombs and 2 tanks	4.5 metric tons	1,800 km/hr	1975/78							
<b>MIG-25</b> Foxbat E <sup>a</sup>	1,425 km with 6 AAMs and 1 tank		3,010 km/hr	1979		<b>SU-27</b> Flanker <sup>a</sup>	1,500 km with 6 AAMs/ guns and 2 tanks	4.2 metric tons (est.)	2,425 km/hr	1985	
<b>SU-17</b> Fitter D/H <sup>b</sup>	695 km with 6 500-kg bombs and 2 tanks	4 metric tons	2,220 km/hr	1976/79		<b>MIG-29</b> Fulcrum <sup>a</sup>	1,165 km with 4 AAMs/ guns and 2 tanks	3.5 metric tons (est.)	2,500 km/hr	1984	

<sup>a</sup> Range radius assumes high-altitude combat profile, at about 15,000 meters.

<sup>b</sup> The radius given is for a mission flown mostly at high altitude at subsonic speed (except for the Foxbat, which is assumed to fly at twice the speed of sound).

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151. The imminent widespread fielding of three new air defense or air superiority fighters will, however, greatly improve Soviet capabilities. The MIG-31 Foxhound is the Soviets' best interceptor. It became operational in 1981, and five air regiments now are at least partially equipped with it. It is capable of tracking and engaging low-altitude bombers, cruise missiles, and other targets flying below it. However, production and fielding have been slower for this technically complex system than for earlier interceptors. [ ]

152. The MIG-29 Fulcrum, a new twin-engine fighter-interceptor will, over the next 15 years, become the backbone of tactical aviation, succeeding the MIG-23. It is entering service this year, while a larger twin-engine fighter-interceptor, the SU-27 Flanker, may be assigned to strategic aviation and territorial air defense units by the end of 1985. The aircraft have better potential for executing air defense operations and for conducting sweeps over NATO territory in support of bombers and some capabilities for offensive roles. Priority for deployment should be with units opposite NATO. The Soviets probably hope that the fielding of these weapons, coupled with their traditional numerical superiority, will tilt the air balance clearly in their favor again by the early 1990s. [ ]

153. **Fighter-Bombers.** In an effort to beef up conventional firepower, the modernization of ground attack air regiments has had high priority during the past decade. The MIG-27 Flogger D/J and the SU-17 Fitter C/D/H/K are the standard Soviet ground attack aircraft, and together they compose more than 80 percent of Soviet front-level ground attack forces. The Soviets are also fielding the SU-25 Frogfoot ground attack aircraft, which will operate in direct support of ground forces. Non-Soviet units are not nearly as modern, being primarily equipped with 1950s- and 1960s-vintage MIG-17s and SU-7s. [ ]

154. The ground attack aircraft represent significant gains in range and payload and provide the Soviets with the capability to conduct deep attacks as well as direct support to ground forces. The MIG-27, SU-17, and SU-25 have only limited night or poor-weather capability. According to one view, the introduction of a long-range navigation system in the forward area would provide a viable attack capability under nighttime and poor weather conditions. [ ]

155. **Helicopters.** Army aviation is now largely responsible for direct support to ground force units. The majority of that support is provided by helicopters, the mainstays of the force being the MI-8 Hip general purpose support helicopter, the MI-24 Hind multiple-role attack helicopter, and the aging MI-6 Hook transport helicopter. The MI-26 Halo heavy-lift helicopter is expected to replace the Hook, thereby improving army aviation's lift capability (see figure 22). In an effort to provide ground commanders with more survivable and effective aerial fire support, the Soviets are also developing two new attack helicopters, the Havoc and the Hokum. They are expected to supplement, rather than to replace the Hind. The initial fielding of the Havoc could begin in 1987. Production could continue through the early years of the next century. We are unsure of the Hokum's basic mission or deployment date. According to one view, the Hokum will be primarily employed in an air-to-air role with a secondary mission of ground attack. [ ]

156. We expect the Soviets to field, later in this decade, a new laser-guided antitank missile with their late-model Hinds and their new attack helicopters. The missile can be expected to have greater range than the AT-6 ATGM currently deployed with newer Hinds. In addition, it should have better accuracy and provide greater operational flexibility because the Soviets will be able to use it with ground-based laser target designators, giving their helicopters a "fire and forget" capability. [ ]

157. **Theater Bombers.** The Soviets are attempting to meet the need for more deep-theater-attack conventional firepower by giving high priority to the modernization of bomber regiments opposite NATO and China with all-weather SU-24 Fencers and TU-22M Backfires. Although some Fencers are assigned to the tactical air forces, two-thirds of the aircraft belong to three of the five air armies of the Supreme High Command. Of the five, three are opposite NATO: one has intermediate-range TU-16 Badger, TU-22 Blinder, and TU-22M Backfire bombers; the others have SU-24 Fencers and some fighter-interceptors. The fourth air army for theater support—opposite China—has TU-16s, TU-22Ms, and SU-24s. The fifth is primarily for strategic operations and is composed of heavy bombers. One intermediate-range bomber—the Backfire C, which has improved supersonic performance at high altitudes—is currently in production, with approximately 30 new aircraft fielded per year. We expect

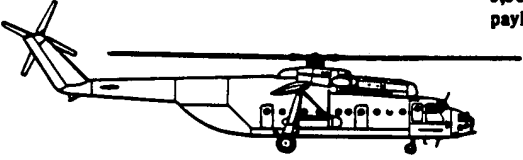
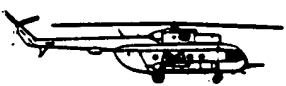
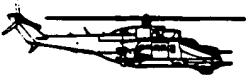
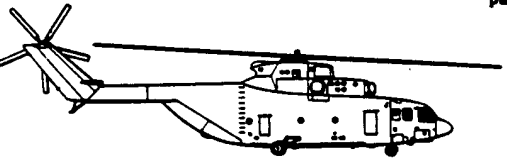
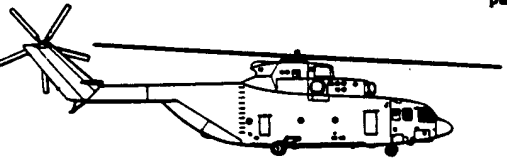
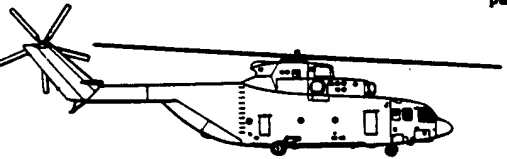
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**Figure 22**  
**Soviet Air Forces: Combat Helicopters**

	Operational Radius	Armament	Cruise Speed	Year Operational
<b>MI-6</b> Hook 	315 km with 5,500-kg payload		255 km/hr	1960
<b>MI-8</b> Hip E 	215 km with 1,720-kg weapon load	AT-2 ATGM, rockets, bombs, Gatling gun	215 km/hr	1977
<b>MI-24</b> Hind E 	220 km with 1,150-kg weapon load	AT-6 ATGM, rockets, bombs, cannon or Gatling gun	260 km/hr	1978
<b>MI-26</b> Halo 	265 km with 20,000-kg payload		250 km/hr	1982
<b>Hokum</b> (developmental) 	CIA, DIA: 300 km (USAF: 275 km) with 1,850-kg payload	AAM or ASM or ATGM, rockets, bombs, cannon or Gatling gun	330 km/hr	1987 (CIA 1987-88)
<b>Havoc</b> (developmental) 	CIA, DIA: 300 km (USAF: 275 km) with 1,850-kg payload	ASM or AAM, rockets, bombs, cannon or Gatling gun	280 km/hr	1987

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the newest Soviet bomber aircraft to receive better onboard self-protection electronic warfare systems, better navigation systems, and sensors for adverse weather attack—which will significantly enhance their penetration capabilities. [ ]

158. *New Aircraft.* We expect that in the 1990s the Soviets will field improved variants of the MIG-29 and SU-27. They could also be working on a follow-on to the SU-17 and MIG-27, but we know nothing about intended characteristics of such aircraft. The Soviets may field attack and transport versions of their tilt-rotor aircraft in the 1990s and thereby improve the range, speed, lethality, and survivability of these aircraft providing air assault support. [ ]

159. *Air Munitions.* In a nonnuclear environment, the Soviets recognize the critical importance of improved conventional munitions to inflict massive damage—in some cases approaching that of low-yield nuclear weapons. They are working on better air- and missile-delivered munitions as one key to the success of their air operation and as a way to counteract NATO's defensive airfield improvements. The Soviets currently field a wide variety of air-delivered gravity bombs. These include a runway-penetration bomb consisting of a parachute retardation assembly, booster rocket, and concrete penetration warhead; a 500-kg semiactive laser-guided bomb for use against high-priority point targets; and several fuel-air-explosive bombs effective against soft targets in the open. [ ]

160. The Soviets apparently see major potential, however, in the development of aircraft-delivered tactical air-to-surface missiles (TASMs) and SRBM-delivered improved conventional munitions that could be used against NATO airbases, air defense targets, and command, control, and communications facilities. Since 1971 the Soviets have produced and deployed eight TASMs employing antiradiation homing (ARH), semiactive laser (SAL), beam rider, command, and, recently, electro-optical guidance systems [ ]. Currently, significant numbers of the newer TASMs are deployed opposite NATO. The current Soviet TASMs will probably be used as a baseline for the evolutionary development of future TASM systems possibly employing fiber optics, solid-state electronics, and more advanced electro-optical guidance systems as well as improved propulsion. Between now and the 1990s we expect lighter weight missile structures to be developed, allowing a higher warhead mass. Future TASM warhead design features will probably include shaped charges, self-forging fragments, reactive materials, smart mines, smart submunitions, and rocket-boosted kinetic-energy penetrators. [ ]

161. The Soviets are also striving to develop new TASMs that provide greater launch ranges, lower launch altitudes, launch and leave, television guidance, improved accuracy against fixed and mobile targets, the ability to attack higher frequency radar and communications systems, all-weather operation, and operations in a countermeasures environment. The Soviets continue to emphasize TASM antiradiation munition (ARM) developments directed toward attacking surface-based air defense weapons and systems. As ARMs become smaller, lighter, and more economical, they will probably be considered for use against emitters such as troposcatter communications systems, other communications systems, battlefield surveillance radars, countermortar/counterbattery radars, jammers, navigational transmitters, and possibly airborne emitters as well (for example, early warning radar and data links). [ ]

162. The Soviet SRBM threat will grow considerably in the next decade as the improved SS-23, [ ]

[ ] becomes available. Improvements to the SRBM force will give the Soviets an option to employ it in a pin-down attack against some critical airbases and for neutralization of air defense sites in penetration corridors. Such attacks could significantly improve the chance of success of the initial massed air raid. Improved conventional munitions (ICM) could be used for concrete or armor piercing; fuel-air-explosives (FAF) could be adapted to rocket delivery and would be effective against soft area targets. [ ]

\* CEP (circular error probable)—an indicator of the delivery accuracy of a weapon system—is defined as the radius of a circle within which 50 percent of the projectiles/missiles fired are expected to fall. [ ]



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#### Support Systems

164. The Soviets continue to press development of support systems, the most important being development of a new AWACS with associated command and control data systems link. An AWACS force would be vital to managing and controlling air defense operations, and would significantly increase target acquisition and tracking capabilities against low-flying threats. Series production of the Mainstay AWACS began this year, and seven have been identified so far. One Mainstay has been stationed at an operational base since mid-June 1984. The Mainstay data link system probably could be used to control MIG-31 interceptors, as well as MIG-29s—and eventually SU-27s, when those aircraft become operational. The Mainstay radar should be able to detect cruise missiles farther from the coast than can a ground-based radar (limited to about 50 km in its line of sight). In theater operations, the Mainstay could provide an overall view

of the air situation and would direct fighters in both defensive and offensive operations. [REDACTED]

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165. We expect that some aircraft will acquire an aerial refueling capability during the projection period. It may be some time, however, until a significant tanker force would be available. Aerial refueling would increase the combat radius and loiter time for theater air forces. [REDACTED]

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166. The delivery of IL-76 Candid jet-powered transports is continuing slowly, increasing the capability of Soviet Military Transport Aviation (VTA) to move military forces over long distances. This gain in airlift capability has been offset, however, as the airborne forces themselves have been mechanized—with more armored equipment to be transported. A one-time movement and airlanding of a complete Soviet airborne division with supplies for three days of combat, for example, would require the entire lift

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capacity of the VTA fleet and would take a week to prepare. [ ]

167. The Soviets have enlarged the IL-76 production facility, and the deliveries of new aircraft are expected to increase from the current four to almost six per month. This increase in production will enable them to maintain the pace of modernization of the transport force as modified versions of the Candid are produced for other roles. [ ]

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168. Flight-testing of the new heavy transport, the Condor, is continuing; and a second prototype has been built. The Condor is comparable in size to the US C-5A but is estimated to have a larger payload. If no major problems occur in the flight test program, the Condor could be operational by 1987 or 1988. [ ]

#### Force Structure

169. The ground attack element of the Soviet and non-Soviet Warsaw Pact air force has increased significantly since 1980, but the numbers of tactical aircraft have been relatively stable. Following the recent air force reorganization, however, the Soviets have reassigned some 14 fighter or interceptor regiments from an air defense role to a ground attack role; they have also activated four former training regiments and assigned them a ground attack mission; they have doubled the number of SU-24 Fencer-equipped regiments opposite NATO and assigned five of these Fencer regiments to bases in the forward area—in East Germany, Poland, and Hungary; lastly they have added a few new units to the force, including five equipped with the SU-25 Frogfoot ground attack aircraft—in Afghanistan and in the Belorussian, Carpathian, Odessa, and Transcaucasus Military Districts. The aircraft has also recently been acquired by the Czechoslovak air force. [ ]

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170. We believe the number of aircraft in future fighter and fighter-bomber regiments for almost all types of new-generation aircraft will be reduced slightly but that the three-squadron regimental structure will remain. The type of aircraft and number per regiment will be determined by the Soviet estimate of the effectiveness of the new aircraft. [ ]

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171. We judge the most potential for dramatic air force structural growth during the projection period would come from an acceleration of the trend to bolster direct air support for ground operations. The Soviets' newest direct air-support aircraft, the SU-25 Frogfoot, has a mission similar to that of the US A-10 and, with its low bombing speed, high stability, and

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greater ordnance accuracy, could be an important asset in locating and destroying enemy defensive strongpoints beyond the range of Soviet artillery. We project at least 10 Soviet regiments will be formed in the next decade. Army aviation attack helicopter numbers—which increased by 50 percent opposite NATO in the past four years—will also grow as additional attack and transport regiments are formed. [ ]

#### Training

172. Since the mid-1970s, the Soviets have instituted major training changes designed to equip aircrews with the combined force skills they will need to actually participate in offensive or defensive air operations. Training sorties have shifted perceptibly from general proficiency flying to air combat, bombing, tactical air-to-surface missile firing, electronic warfare, and navigation. The share of total sorties directly related to combat missions rose from about one-fourth in the mid-1970s to roughly one-half in the early 1980s. [ ]

173. The Soviets have also instituted new tactical training programs to address qualitative deficiencies. Fighter pilots now undergo a formal training program in air combat maneuvering in addition to the established program of ground-controlled-intercept (GCI) training. Pilots are now required to show more initiative during intercepts in response to target maneuvers and to electronic countermeasures (ECM). GCI training still accounts for most of a fighter pilot's combat training sorties, however, and still is the dominant type of training. [ ]

174. The Soviets are also working to improve coordination among fighter, strike, and support aircraft during offensive operations. This training includes drills to integrate rotary- and fixed-wing aircraft operating with ground forces and deep-interdiction drills that simulate major multiregiment strikes against critical targets such as NATO airfields. These coordinated operations make increasing use of radioelectronic combat, a form of warfare the Soviets feel has great potential. [ ]

175. These improvements in tactical aircrew training reflect a shift in the Soviets' perception of the difficulty of defeating NATO's air forces. The introduction of air combat maneuvering into fighter training and the encouragement of pilot initiative in the end phases of GCIs indicate that the Soviets are taking steps to offset the limits of their radar and communications coverage over NATO territory. Ground attack

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training has been changed to improve capabilities to find and destroy mobile targets (for example, nuclear missile launchers so important to the Soviet conventional strategy), coordinate firepower in support of ground operations, and attack airfields with hardened aircraft shelters. Finally, the increase in training with electronic countermeasures (ECM) shows that the Soviets expect it to be essential in operations against modern air defenses. [ ]

176. Many air force conscripts fill low-skill positions; some attend military technical schools where short, six-month training courses provide only limited technical training. In the case of those who may have to deal with complicated equipment, such as radar operators or aircraft mechanics, this is not enough time to produce adequate competence. Evidence indicates that conscript specialist courses are general and theoretical and that practical work consists largely of familiarization training on obsolete equipment. The conscript who has received technical training usually finds that maintenance and operation of sophisticated equipment are performed by either an officer or a warrant officer. The conscript acts as an assistant. [ ]

177. According to one view, the force size and complexities of modern aircraft would not allow the Soviets to relegate conscripts to just assisting officers and warrant officers in aircraft maintenance and in performing general cleanup duties. The holders of this view believe that it is more likely that the Soviets are taking positive steps to increase the technical skill levels of conscripts although they have not yet achieved a large pool of technically proficient personnel. [ ]

178. Another view is the following: As avionics equipment becomes increasingly complex the Soviets apparently intend to ensure that it is equipped with built-in test circuits and line replaceable units—components that can be tested easily and replaced by relatively unskilled conscripts. The components would be replaced from a reserve pool of similar components and defective units would be shipped to a rear depot for repair. This concept does not require the Soviets to develop a high level of technical skill in their conscripts, nor would it require them to greatly expand current technical training. The success of this approach would depend on the Soviets' ability to build

equipment with adequate reliability and their willingness to maintain sufficient stockpiles of replacement units. [ ]

179. Still another view is as follows: The most notable features of Soviet maintenance manpower are the changes in composition and capability that have occurred in the past decade. Soviet aircraft maintenance personnel are no longer divided into a large, technically capable, but specialty-limited, officer contingent and a large, technically untrained conscript contingent. Today, while the proportion of officers remains large by Western standards, the conscript pool is both large and technically proficient. The principal sources of the improvement in conscript capabilities are the civilian educational systems, particularly the *tekhnikums* (technical training/trade schools). These schools now provide a conscript pool whose theoretical and practical proficiency reduces, to a minimum, the postinduction familiarization training required of Soviet Air Forces (SAF) technical schools. One reflection of this significant development is the shift from officer-led flightline maintenance teams to teams led by warrant officers or noncommissioned officers (NCOs). In addition, it appears that conscripts and NCOs trained in SAF technical schools can perform diverse technical maintenance/repair tasks. [ ]

180. The problem of inadequate training and ineffective utilization of enlisted personnel is also acute in the NCO corps. The curriculum for air force NCOs appears to focus on leadership training rather than on technical subjects. As a result, NCOs do not generally gain necessary technical experience. NCO deficiencies reportedly frequently lead to frustrations among junior officers who must increase their workloads, performing duties that ordinarily belong to the NCOs. We have no evidence on how the Soviets plan to remedy (during our projection period) their deficiencies in enlisted air force training. [ ]

181. We judge that the Soviets probably still have several fundamental weaknesses in their flight training programs:

- Fighter pilot training in air combat maneuvering is limited to a few basic maneuvers and still averages only one to two sorties per pilot per month.
- Ground attack and reconnaissance aircrews appear to receive almost no training in air-to-air

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defensive tactics needed to survive against NATO fighters in contested airspace. They apparently make little effort to limit their exposure to ground-based air defenses in the target areas; instead they use chaff, flares, self-protection standoff, and escort jammers.

- Low-altitude training (below 300 meters) is rare.

- Simulations of combat are only now becoming more realistic [REDACTED]

## Naval Forces

### Strategic Forces

182. Support for land theater warfare is a secondary mission for the Soviet Navy overall during the initial phase of a NATO war. Within the Soviets' wartime strategy, the primary initial tasks of the Navy are strategic. These tasks are and will remain:

- To deploy and provide protection for nuclear-powered ballistic missile submarines (SSBNs) in preparation for and participation in intercontinental and theater nuclear strikes.
- To defend the USSR and its allies from strikes by enemy ballistic missile submarines, aircraft carriers, and—now—surface ships and submarines armed with long-range nuclear sea-launched cruise missiles (SLCMs) (see figure 23).

Accomplishment of these tasks would entail attempts to control all or portions of the Kara, Barents, and northern Norwegian and Greenland Seas, the Seas of Japan and Okhotsk, and the northwestern Pacific Basin, and to conduct sea denial operations beyond those areas to about 2,000 kilometers from Soviet territory. During the period of this Estimate, we believe that the Soviets will attempt to extend their sea denial area to 3,000 km from Soviet territory, principally in an attempt to defend the homeland from Western platforms carrying land-attack nuclear-armed cruise missiles. We believe that virtually all of the Northern and Pacific Ocean Fleets' available major surface combatants (see figure 24) and combat

aircraft and some three-quarters of their available attack submarines would be initially committed to operations in these waters. [REDACTED]

### Theater Forces

183. Support for Ground Forces operations in the European land theaters of military operations is a primary initial wartime task (including countering naval support to enemy operations in peripheral areas such as Norway) of the Soviet Navy's Baltic and Black Sea Fleets, and a secondary task of the Northern Fleet. Naval forces supporting land operations would, under the command of a Ground Forces TMO commander, seek to gain control of the Baltic and Black Seas, neutralize enemy naval forces (including aircraft carriers and SLCM-armed ships in the North Sea and the eastern Mediterranean), conduct amphibious operations, secure maritime sea lines of communication (SLOCs), conduct seaborne logistic operations, and prepare for sea-based theater nuclear strikes against NATO. [REDACTED]

184. In NATO's northern region, the Soviets could expect enemy amphibious landings in northern Norway in support of Norwegian resistance to any Soviet advances. The Soviets may also anticipate enemy airstrikes or landings on the Kola Peninsula. Soviet Northern Fleet forces would probably resist such moves as being strategic as well as theater threats in their sea control area. The Northern Fleet could also provide assistance along the Finnmark coast to Ground Forces operations. Some Northern Fleet units could also participate in theater nuclear strikes. [REDACTED]

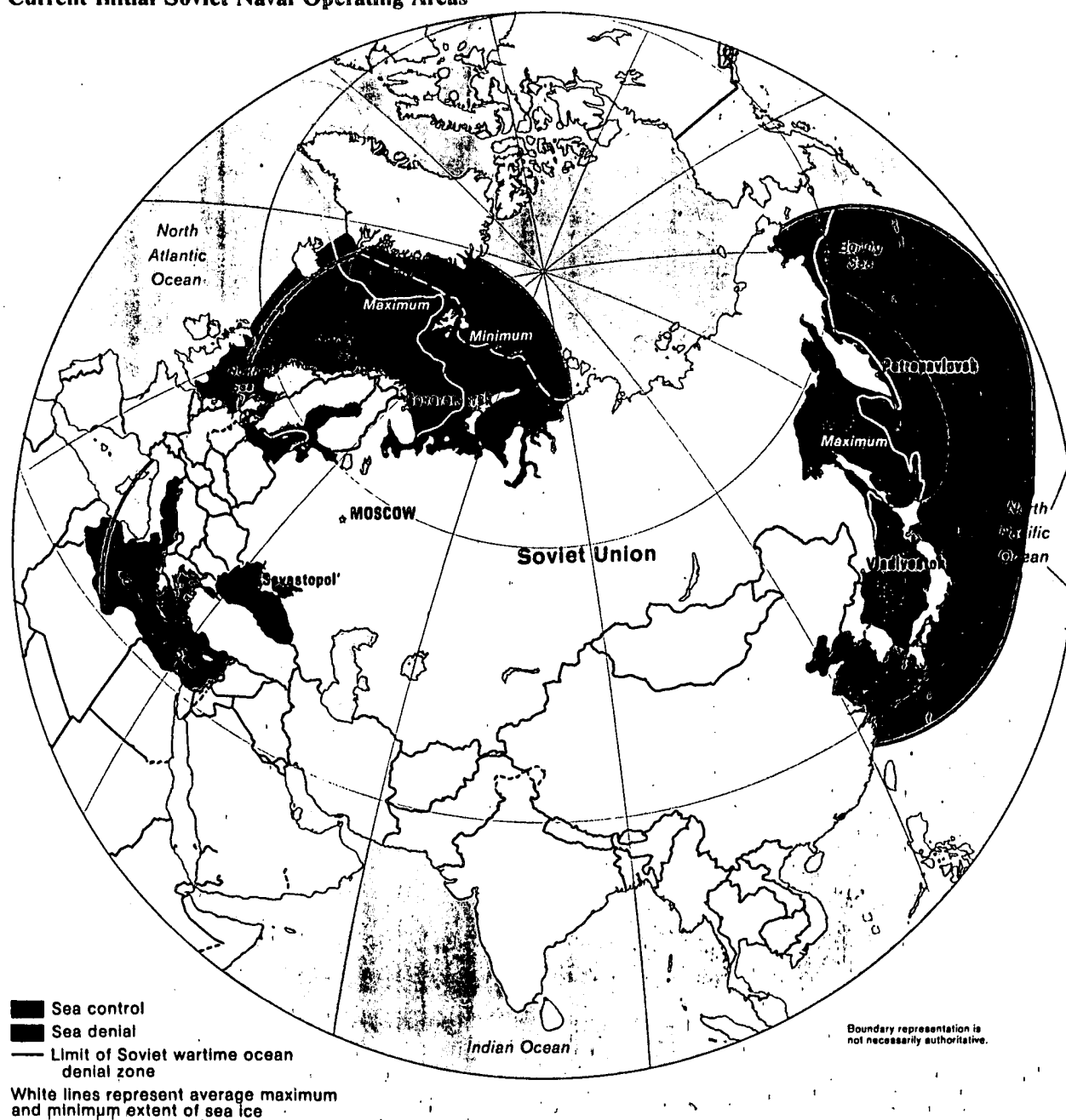
185. In the Baltic Sea, operations would be conducted by the combined Warsaw Pact Baltic fleets, and would be directed at controlling the Baltic through the use of surface units, submarines, and a variety of aircraft, including naval fighter-bombers. Warsaw Pact naval forces would attempt to gain air superiority over the Baltic, and the action would be quickly followed by operations to secure sea control. This would lead to amphibious operations against the Baltic straits and northern German mainland, and heavy seaborne logistic support for Ground Forces operations on the Northern and Central Fronts. In addition, the presence of enemy aircraft carriers or SLCM-armed units in the North Sea may require coordinated strikes by Baltic Fleet air units flying over NATO territory. The Soviets' ability to prosecute such attacks from Baltic Fleet bases would depend on

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**Figure 23**  
**Current Initial Soviet Naval Operating Areas**



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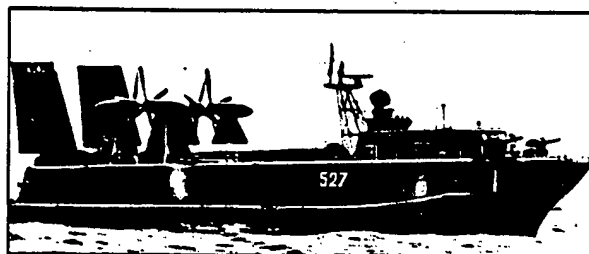
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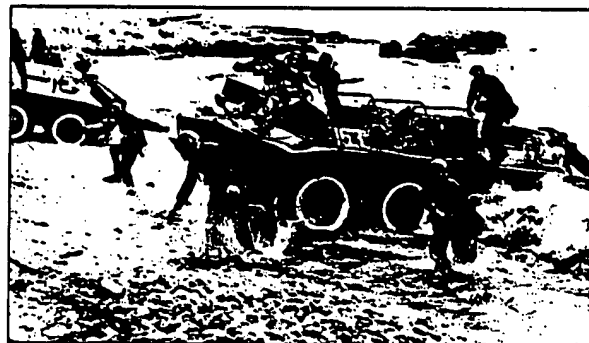
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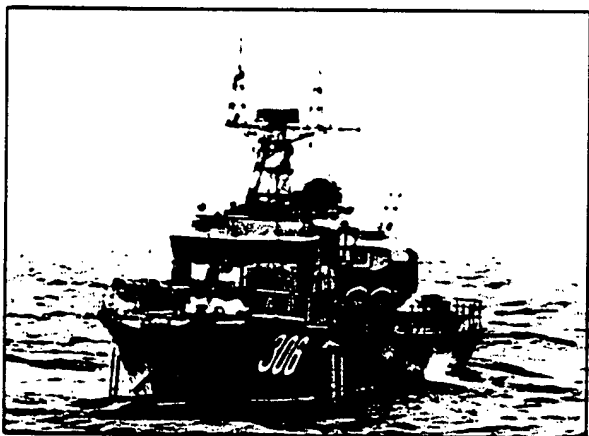
**Figure 24**  
**Selected Naval Equipment of the Soviet**  
**General Purpose Forces**



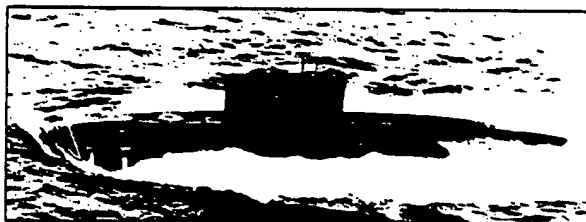
Air-cushion vehicles (AIST)



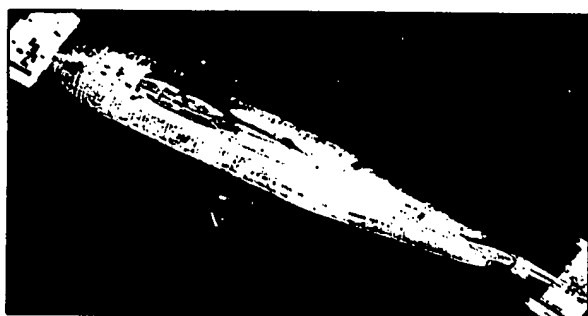
Naval infantry training



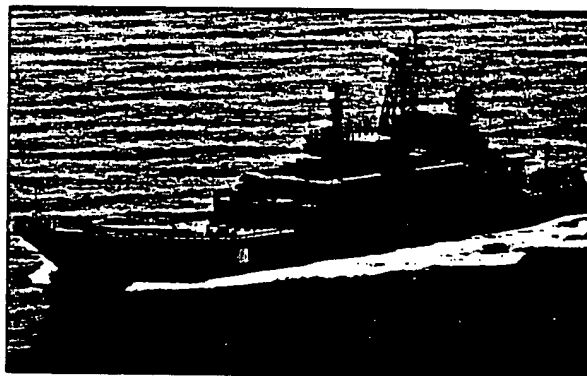
Turya-class patrol torpedo hydrofoil (PTH)



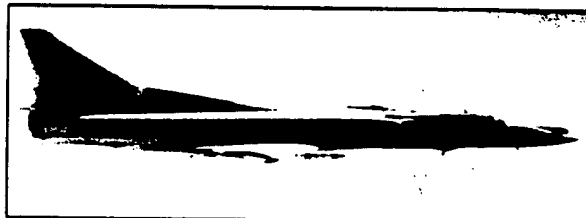
K-class submarine



O-class submarine



Ropucha-class amphibious vehicle landing ship (LST)



Buckfire aircraft

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overall Soviet success in neutralizing NATO air defenses. The six Baltic Fleet G-II-class SSBs (non-nuclear-powered ballistic missile submarines) would be reserved for participation in theater nuclear strikes.

186. The combined Warsaw Pact Black Sea fleets would focus their operations on gaining control of the Black Sea and supporting sea denial operations in the eastern Mediterranean Sea, especially against enemy aircraft carriers, SSBNs, and SLCM-armed units. These operations might require prehostilities reinforcement of the Soviet Navy's Mediterranean Squadron and a major effort by naval aircraft to strike enemy units in the Mediterranean through Western air defenses. Operations in direct support of the Ground Forces would include maintaining seaborne logistic SLOCs, and conducting amphibious landings with naval infantry supported by surface and air bombardment and special operations in advance of the Ground Forces offensive toward the Turkish straits.

187. We foresee no significant operational changes in Soviet naval support for land TMOs. We anticipate, however, the slow continuation of several organizational and weapons trends that should provide land theater commanders with more capable naval forces for combined-arms operations. Chief among these are:

- Integration of the newly developed SS-NX-21 long-range land-attack nuclear SLCM into theater nuclear strike plans.
- Continuing efforts—in conjunction with Air Defense Forces—to develop more effective seaborne air defenses, especially against aircraft armed with air-launched cruise missiles (ALCMs) or improved air-to-surface missiles (ASMs). Improvements to NATO air forces continue to jeopardize the Soviets' ability to secure air superiority, and hence to gain sea control, in the Baltic and North Seas.
- Increasing Soviet concentration on antisubmarine and antisurface operations in confined waters of the Baltic and Norwegian Seas, due to the European NATO nations' acquisition of coastal defense and antishipping units, particularly small diesel submarines designed for operations in the Baltic and fast missile-armed patrol boats designed for operations in the Norwegian fiords and Danish islands.
- Increasing efforts to remedy equipment and training deficiencies for rapid mine clearing in the approaches to amphibious landing areas.

- Continued modernization and expansion of Baltic and Black Sea Fleet naval infantry forces.

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- Continued gradual replacement of older naval Badgers with TU-22M Backfire C bombers, giving Soviet Naval Aviation greater potential for in-theater maritime strikes.
- The increasing availability of sea-based airpower as a few larger aircraft carriers enter service during the 1990s. Although these ships could provide some support to Ground Forces operations, we expect that in a NATO-Pact war the Soviets would use them primarily to enhance air defense over areas of the sea they wished to control. The first of the new carriers [REDACTED] could be operational by 1990, but there is uncertainty about its propulsion system and its capability to handle conventional takeoff and landing (CTOL) aircraft.

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188. The Soviet Navy alone has only enough amphibious lift capability to transport about one-half to three-fourths of its naval infantry force and its equipment in one lift. The remainder, and all resupply material, could be carried in mobilized merchant marine hulls, especially advanced roll-on/roll-off (Ro/Ro) vessels. Amphibious lift capabilities will be modestly increased with the resumption of Ropucha-class landing ship construction by Poland in the years ahead.

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189. Because the Soviets generally believe it is more important to be ready to go to sea on short notice than to be at sea, the operational experience and training proficiency of naval crews suffer somewhat. Although we have yet to see dramatic changes in general purpose naval training, Soviet writings have emphasized the need to improve training programs to shorten the time required to attain crew proficiency with sophisticated systems. Hence, we expect incremental modernization of training. We do not, however, expect the Soviets to abandon their belief that training deficiencies incurred by maintaining vessels in port are more than offset by the higher material readiness rates achieved.

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190. Soviet naval infantry forces are improving their amphibious assault tactics, emphasizing techniques to gain the initiative at the beachhead and build up forces ashore. Air-cushion vehicles and conventional landing craft have been used more effectively. Moreover, specially trained motorized rifle units have participated in the initial assault, rather than acting solely as second-echelon forces.

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## VI. NON-SOVIET WARSAW PACT GENERAL PURPOSE FORCES

191. Although it is the dominant member of the Warsaw Pact, the USSR has assigned non-Soviet forces important offensive missions opposite NATO. Soviet operational concepts and organizational models determine the general direction of non-Soviet Warsaw Pact force development. To ensure the basic compatibility of Pact forces, we believe that the USSR, or Soviet-dominated Pact committees, set standards for Pact training and weapons procurement, define the strength and structure of NSWP forces, and guide development of transportation and communications networks within member states. The USSR has also attempted to manipulate the military and defense

industrial planning institutions of the alliance members in an effort to achieve arms production economies and specialization. [REDACTED]

192. Despite the Soviets' interest in ensuring that their allies adopt Soviet operational and tactical concepts, procure modern equipment, and implement Soviet organizational models, Eastern Europe's reluctance to spend on defenses and its poor economic performance have created a widening gap between the military capabilities of Soviet general purpose forces and those of the NSWP allies. That gap will almost certainly grow during the projection period. The Soviets will probably devise stopgap measures and make some changes in the operational missions of their allies in order to compensate for these disparities. [REDACTED]

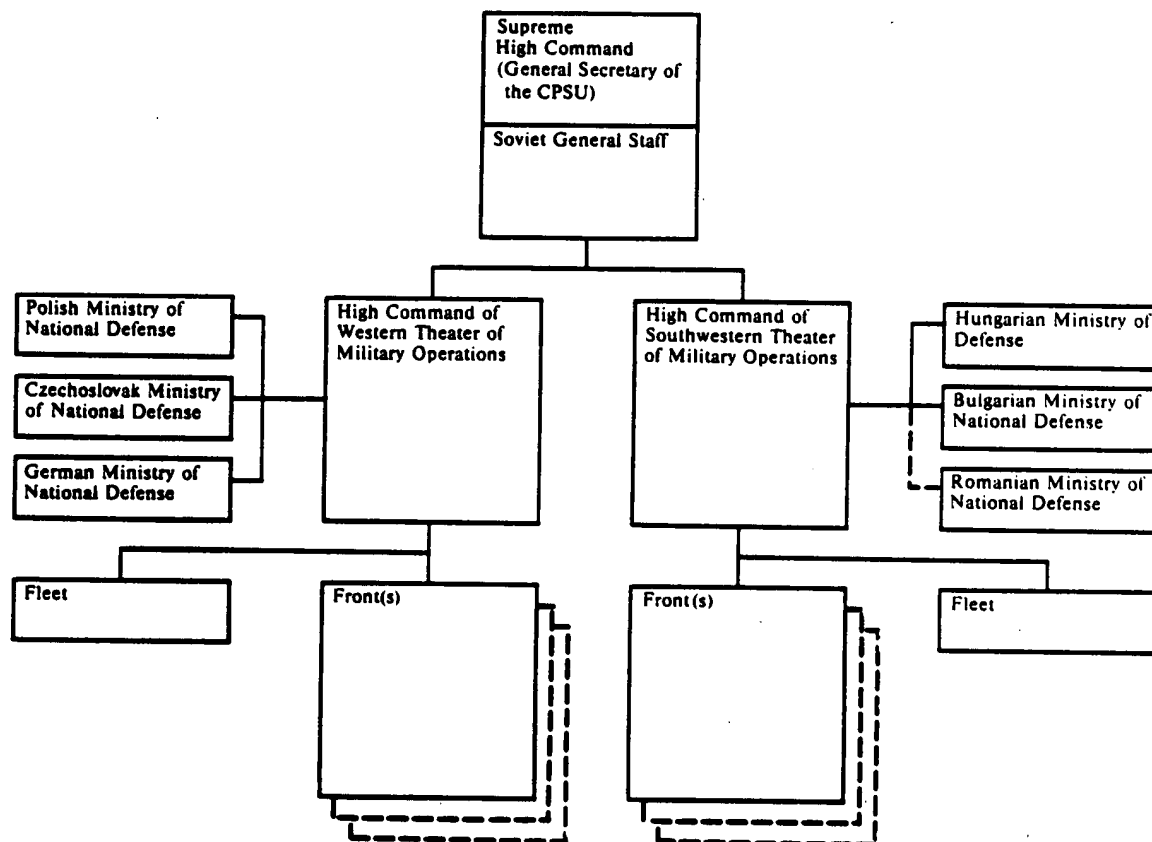


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**Figure 26**  
**Organization of the Warsaw Pact in Wartime**



### Command Structure

193. The Warsaw Pact is currently organized under authority of a peacetime statute ratified in the late 1960s. Marshal Kulikov, the Commander in Chief, directs and supervises peacetime Warsaw Pact training exercises and monitors the readiness of non-Soviet units that belong to the Pact's Combined Armed Forces (CAF).

194. We judge that the Soviet Supreme High Command would assume absolute control of CAF units

well in advance of hostilities, during a period of heightened international tensions (see figure 26). East European forces, including fleets and air defense units, would operate under the direct control of the respective Soviet TMO commanders. The conditions and procedures for deciding to move to the wartime structure are probably vague, however, and there apparently is no parallel to the explicit procedures by which NATO members would release their forces to SACEUR's control. Most likely, the Soviets would consult their allies during a period of rising tension, seeking a consensus for the shift to a wartime com-

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mand structure and their willing participation and support. In any case, with the Soviets to their backs, with powerful Soviet forces in Eastern Europe, and with the unifying factor of a perceived NATO threat to their security, the East European regimes would most likely cooperate with and be judged reliable by the Soviets at least through the early period of any Pact-NATO conflict. [ ]

195. The wartime command and control structure probably is designed for actual war fighting and is not intended to expand the Soviets' control of the Pact during peacetime. The organization established reflects the Soviets' determination to centralize control of all theater-level assets and commands, including their own. With the wartime structure probably now defined to their liking, the Soviets may be establishing peacetime TMO high commands. The East Europeans would be suspicious of such a development, fearing encroachment on their own control of national forces. We doubt they would surrender any meaningful control of their forces in peacetime to the Soviets. We expect the East Europeans would object to an enlargement of Soviet authority. [ ]

#### Ground Forces

196. The NSWP countries assumed offensive missions in the Pact's military plans only in the late 1960s and early 1970s. NSWP countries are to supply about one-half of the first-echelon forces in the Western TMO although generally on the less critical flanks of the main Soviet offensive against the Central NATO region. These missions prompted a buildup in NSWP ground and air forces through the mid-1970s. The forces were initially equipped with older Soviet weapons provided on concessionary terms. By the mid-1970s, NSWP ground forces in the northern tier lagged forward-deployed Soviet units by five to 10 years or more in many categories while southern-tier nations were equipped with even fewer modern weapons. [ ]

197. The current Soviet emphasis on improving conventional forces threatens to leave the NSWP forces further behind, with important operational implications. Even with their declining capabilities, these forces can be assigned missions supporting the Soviet offensive strategy. They can attack in secondary sectors and fix or pin down NATO forces and prevent them from deploying to more threatened sectors. They can also serve as mopup and occupation forces. Nevertheless, the lag of NSWP combat capability does represent an exploitable vulnerability. The Soviets apparently realize this could create soft spots in the Pact theater offensive, inviting NATO counterattacks and exposing Soviet flanks. [ ]

198. The NSWP countries have only slowly modernized since the mid-1970s (see figure 27). Most disturbing from the Soviet viewpoint, they are falling behind in precisely those categories of equipment most critical to the Soviet conventional strategy, which is based on integrated conventional firepower and combined-arms maneuver tactics. [ ]

199. For example:

- Some countries, notably Poland, still field a majority of World War II-vintage towed artillery, and none are approaching Soviet standards for acquiring and integrating modern self-propelled artillery into their maneuver divisions.
- The East Europeans will not acquire the latest Soviet tank—the T-80—in the foreseeable future and are receiving the T-72 tank very gradually. Few have even modest numbers of improved T-55 or T-62s and several still have World War II-vintage T-34 tanks in active units. Most, however, are equipped with standard T-54/55-series tanks. All of these tanks are vulnerable to at least some currently fielded NATO antitank means.
- Most still rely on older towed antiaircraft guns that would be hard pressed to provide mobile air defense for maneuver units in a high-tempo offensive.
- Almost 40 percent of NSWP motorized rifle regiments, primarily in the southern-tier armies, are still equipped with trucks rather than APCs and IFVs.
- Most NSWP divisions have few or no attack helicopters assigned to them. [ ]

200. The NSWP countries apparently are trying to attain the organizational models typical of Soviet divisions in Eastern Europe in the late 1970s. These are probably considered by the Soviets as the minimally acceptable organizational goals needed to create balanced all-arms maneuver units capable of conducting Soviet style combined-arms tactics prescribed for defeating NATO antiarmor defenses. The principal objectives of such a reorganization would include:

- Expansion of the MRR's artillery unit from a battery of six guns to a battalion of 18 guns.
- Formation of artillery battalions of 18 guns in tank regiments (TRs). Currently the NSWP TRs have no artillery.
- Expansion of tactical missile units and nondivisional artillery units—generally involving a growth of at least one-third in battalion-size holdings. [ ]

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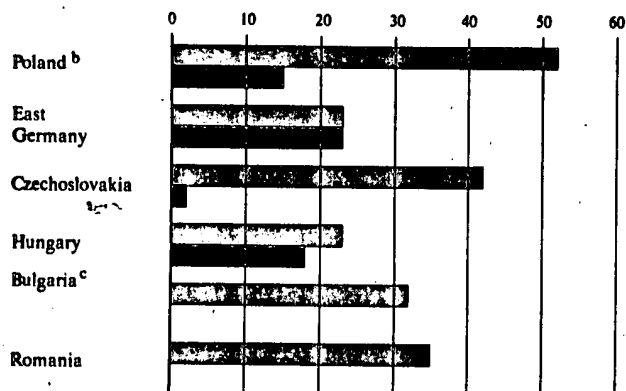
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**Figure 27**  
**Modernization of Non-Soviet Warsaw Pact**  
**Ground Forces**

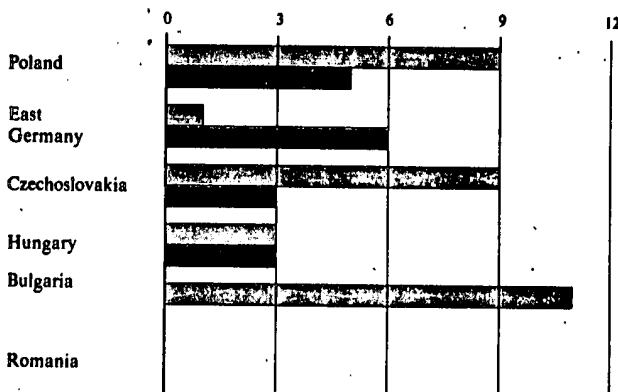
**Regiment-Level Air Defense<sup>a</sup>**

AAA equipped  
 SAM equipped



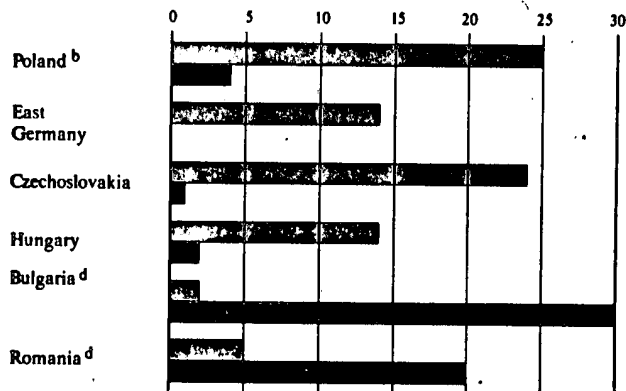
**Division-Level Air Defense**

AAA equipped  
 SAM equipped



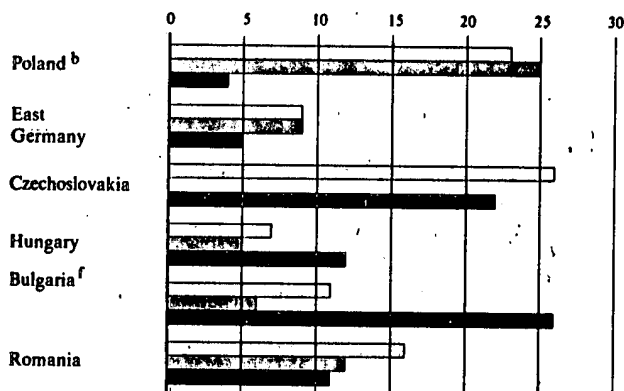
**Motorized Rifle Regiments, by Type of Troop Carrier**

Equipped with APCs or IFVs  
 Equipped with trucks



**Regiment-Level Artillery<sup>e</sup>**

Regiments without artillery  
 Regiments with six-gun battery  
 Regiments with 18-gun battalion



<sup>a</sup> Does not include hand-held SAMs such as the SA-7.

<sup>b</sup> Poland's airborne and amphibious landing divisions are not included.

<sup>c</sup> Bulgaria's five tank brigades are not included.

<sup>d</sup> Reflects equivalent number of APC-equipped MRRs; Bulgaria and Romania distribute small numbers of APCs in all MRRs rather than concentrate them in a few units.

<sup>e</sup> Pact goals are to equip all regiments—tank as well as motorized rifle—with a battalion of 18 guns.

<sup>f</sup> Bulgaria's five tank brigades, which are equipped with artillery battalions, are not included.

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201. None of the NSWP countries will meet all of these objectives by the end of 1985, and most—with the possible exceptions of East Germany and Czechoslovakia—are unlikely to meet them even by 1990. Economic constraints and production problems will limit compliance, and in most countries only modest changes will occur. For example, as a result of tank production problems in Poland and Czechoslovakia, none of the NSWP countries is likely to organize even a single tank or motorized rifle division within the next few years according to the current Soviet model. [REDACTED]

202. Sluggish equipment and organizational changes probably have, from the Soviet perspective, distressing operational consequences. Some of the Soviets' most promising operational innovations apparently are beyond the ability of most of the NSWP countries to implement. [REDACTED]

203. The Soviets have attempted to quicken the pace of modernization by granting Soviet production licenses for military equipment to their East European allies. A number of East European countries now coproduce Soviet-designed self-propelled artillery or T-72 tanks as well as other, less complicated systems. Despite the obvious appeal of such an approach to modernization, coproduction efforts can be crippled by parts shortages or production delays in any one country. Nonetheless, the effort, which provides the East Europeans with an economic stake in modernization, should slowly provide them with an increasing source of modern artillery, tanks, and other armored vehicles. [REDACTED]

204. The Soviets have also pressed their allies to improve their capabilities in key selected areas. For example, in keeping with emphasis on their newly conceived air defense operations, the Soviets have heavily sold the need for a joint air/ground multinational integrated air defense net over Eastern Europe. Most of the NSWP countries are at least acquiring some self-propelled SAMs to replace towed antiaircraft guns, and we expect SAM acquisition will be an East European priority through the mid-1990s. Moreover, East Germany, Czechoslovakia, Hungary, and Bulgaria have built or are building sites for SA-5 high-altitude SAMs, and Poland may do so. When completed, this overlapping network of sites will threaten NATO AWACS and other high-altitude aircraft operating to a distance of 150 km from Pact territory over Western Europe from the Baltic to the Black Sea. [REDACTED]

205. Some of the best equipped East European countries—notably East Germany and Czechoslovakia—are improving their nuclear delivery capabilities. [REDACTED]

[REDACTED] These changes underline Pact determination to improve capabilities to fight a nuclear war, even as a major effort is made to improve conventional arms. As in the past, control of nuclear warheads that would be used by NSWP forces will remain with the Soviets. (S NF)

206. We foresee no major force structure changes in NSWP ground forces. Older equipment in some countries will be stored as the basis for the mobilization of combat or combat support units in wartime. However, few new units will be formed, in large part because the East Europeans lack a manpower base and financing to support substantial force growth. [REDACTED]

#### Air Forces

207. The traditional role of the NSWP air forces has been air defense. In 1983 about 1,600 of their aircraft were air defense fighters. Fighters constitute nearly two-thirds of the total NSWP fixed-wing combat force. By contrast, only 40 percent of the Soviet aircraft opposite NATO in 1983 were fighters. [REDACTED]

208. With the new emphasis on increasing conventional firepower, the NSWP air forces are beginning to follow the Soviet lead of converting more aircraft to a ground attack mission. In 1983 about 640 aircraft were in NSWP ground attack units—an increase of 40 percent since the mid-1970s. This trend should continue, and more emphasis will also be placed on acquiring ground attack assets—attack helicopters and SU-25 fixed-wing aircraft—for direct support of NSWP ground units. [REDACTED]

209. Analysis of trends in the strength and composition of Warsaw Pact air forces opposite NATO reveals a growing disparity between the overall Soviet and East European air forces in terms of combat potential. Only in ground attack capability have the NSWP air forces shown substantial improvement in recent years. This is due mainly to an increase in aircraft numbers rather than to the deployment of more modern aircraft although the slow introduction of the SU-17 and SU-22 Fitter, SU-25 Frogfoot, and MIG-23 Floggers by the East Europeans are important qualitative improvements. [REDACTED]

210. As of 1984 only 40 percent of the aircraft in the NSWP forces were models introduced since about 1970. Although some East Europeans have spent large

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amounts on aircraft acquisitions since 1979, the disparity in the capabilities of East European air forces relative to those of Soviet forces is likely to grow because of the tendency in NSWP states—mainly for economic reasons—to buy modernized versions of aircraft that are a decade or more old rather than the most advanced aircraft in the Soviet inventory. [REDACTED]

to spend above about 5 percent on defense. In addition, manpower shortages may prevent the East Europeans from adopting expanded Soviet unit organizations that would require more conscripts. Economic, and to some extent manpower, problems are likely to keep the East Europeans from closing the gap with Soviet forces during most of the projection period. [REDACTED]

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### Naval Forces

211. With their limited forces, the Polish, East German, Bulgarian, and Romanian navies are assigned less critical roles in the combined fleets that in wartime would be formed in the Baltic and Black Sea Fleet areas. Their forces are structured to assist the dominant Soviet fleets in providing defense against NATO amphibious assaults and protection of Warsaw Pact sea lines of communication from submarine and surface attacks. The NSWP navies also would contribute amphibious forces for landings on the Jutland Peninsula and the Turkish Straits and carry out mine-clearing operations to support the movement of Warsaw Pact naval forces into the North Sea and the Mediterranean. We believe that the Soviets would maintain overall direction of NSWP naval operations in wartime through a combined headquarters in each fleet, but the infrequency of joint exercises might hinder the smooth integration of the forces. [REDACTED]

212. The aging inventory of submarines, ships, and naval aircraft in the NSWP countries points to a continuation of their secondary position in naval planning for a war with NATO. Frigates and patrol boats armed with torpedoes and short-range cruise missiles will continue to be the backbone of NSWP surface and antisubmarine warfare forces. The NSWP navies can muster only five diesel submarines in the Baltic and Black Seas. Despite prompting by the Soviets, the NSWP countries with naval forces do not appear willing or able to significantly increase their naval expenditures in order to acquire modern naval equipment that would seriously threaten NATO. [REDACTED]

### Prospects

213. Prospects for material improvement in NSWP forces that would satisfy Soviet requirements hinge on a broad, sustained economic recovery in Eastern Europe. None of the East European regimes approaches the 13 or so percent of national income devoted to defense by the Soviets because most seek a higher standard of living and devote more resources to nondefense activities than do the Soviets. None is estimated

214. During the 1970s, in an effort to give impetus to NSWP modernization programs and to reduce the growing disparity in Soviet-NSWP force capabilities, the Soviets did push for greater integration of East European defense industries devoted to general purpose force production. [REDACTED]

215. This effort has had several consequences:

- NSWP defense industry has increased its concentration on simpler support systems, small arms, munitions, and weapon components. The Soviets have apparently continued to decline the license of more advanced systems. This eased the design and production demands on NSWP industry and lessened the opportunity for leakage of sensitive Soviet technology. NSWP component production, in turn, has benefited from the inflow of Western technology. NSWP concentration on support systems also reduced Soviet dependence on militarily vulnerable NSWP plants for critical weapons and enabled Pact rear services to draw on local sources for parts.
- Specialization in components probably has contributed to wider participation in production and procurement programs for major weapons like the T-72 tank. This should result in economies because of large production volumes. However, it also renders programs more vulnerable to disruption because production problems in any one country can slow or halt production in others. Furthermore, cumbersome procedures within both the Pact and the Council for Mutual Economic Assistance (CEMA) have apparently impeded arms trade within the Pact. [REDACTED]

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216. Whether the growing Soviet control over NSWP defense industry has been to the overall advantage or disadvantage of NSWP countries is not yet clear. Militarily, standardization in Soviet armaments probably has increased NSWP military capabilities, and probably has increased Soviet ability to control operations. Economically, Pact countries probably have benefited from the efficiencies associated with specialization and the opportunities to earn hard currency through arms exports to the Third

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## NSWP Defense Costs

While the Soviet Union devotes between 13 and 14 percent of its total national income to defense, non-Soviet Warsaw Pact countries typically devote only about 4 percent. This wide disparity in defense spending and in the political priority accorded defense claims is a principal reason why NSWP forces are so far behind Soviet general purpose force developments.

Dollar cost assessments of Warsaw Pact defense activities indicate that NSWP defense costs have averaged a little more than one-sixth of the total Pact costs for all defense activities. Dollar cost assessments also indicate that, since the mid-1970s, average annual growth rates in NSWP defense expenditures have been modest or nonexistent (see table).

CIA and DIA both found a linkage between slower economic growth and slower growth in defense outlays,

suggesting that the sluggish growth in NSWP defense spending during the past decade has been a planned response to slower overall economic growth. This linkage is consistent with published East European statements, indicating the cancellation or deferral of some weapon procurement programs because of economic downturns.

We anticipate very modest long-term economic growth in Eastern Europe. Because of the close link between economic growth and rates of defense spending, it is unlikely that force modernization can occur rapidly there in the absence of broad economic recovery. With costs for new weapons rising more rapidly than defense expenditures, we expect the East Europeans will buy new weapon systems at even slower rates than in the past. Force inventories will "turn over" more slowly, and older equipment will remain in service for an extended period. In the 1960s and early 1970s, the East Germans, for example, completed the acquisition of T-55 tanks for their six active divisions in about a decade but, in the past four years, have been unable to equip even one division with T-72s.

While some economies can be made in fuel and maintenance costs to boost procurement budgets, such cuts have adverse training and readiness implications and are self-defeating if carried too far. The East Europeans have probably sought Soviet subsidies to increase modernization rates or, failing that tactic, have apparently spread purchases of new equipment—most of which is Soviet made—over longer periods than the Soviets would prefer. Despite economic difficulties, the East Europeans will gradually modernize and considerably improve their general purpose forces in the coming years. Nonetheless, because of high weapon costs and limited procurement budgets, their forces in 1990 will be less capably equipped relative to the best Soviet units than they were a decade earlier.

#### Annual Growth Rates of NSWP Defense Costs \*

Percent

	DIA Estimate, 1970-81	CIA Estimate	
		1970-75	1975-83
Poland	2	0.6	0.1
Czechoslovakia	2	2.2	0.8
East Germany	4	1.5	1.4
Romania	Less than 1	1.1	-0.1
Bulgaria	No growth	0.3	0.8
Hungary	1	1.2	0.1
NSWP total	Less than 2	1.1	0.5

\* Both estimates were made on the basis of constant calendar year dollar costs, DIA's based on 1981 dollars, CIA's on 1983 dollars.

World. Technical dependence on the Soviets may impair development of NSWP industries, however, and NSWP arms industries will remain vulnerable to Soviet influence over the terms of trade, as the Soviets charge heavily for licensing and export rights.

217. We believe the integration of Warsaw Pact defense industries will continue. NSWP specialization in subsystem and component production and reliance on Soviet designs will probably intensify in the 1980s. In open-source literature, CEMA industrial planners extol the 1970s as a period of coproduction and the 1980s as a period of perfecting the mutual advantage. This trend will increase the interdependence of all Pact countries, and it may increasingly involve Roma-

nia, which strove for greater industrial independence in the 1970s. We doubt, however, that arms production in Eastern Europe will be of sufficient quantity in the projections period to close the growing gap between Soviet and non-Soviet forces. We do, however, expect slow overall progress—and perhaps impressive progress in select areas—as the East Europeans attempt to meet Soviet modernization goals and organizational norms.

#### Soviet Options

218. As Soviet force improvements outstrip those of their allies, it will be increasingly difficult to maintain common training standards and to uniformly increase

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operational capabilities in terms of firepower, mobility, and survivability in all Pact forces. In particular, the East Europeans will have great difficulty adopting some of the most promising Soviet combined-arms tactics [ ] or in developing the integrated fire support forces viewed by the Soviets as the key to defeating NATO's antiarmor and antiair defenses of the future. [ ]

219. The Soviets appear to have only a few alternatives to compensate for slipping NSWP combat potential, and none are attractive. They could, for example, pay much more of the East European defense bill. However, the Soviets are not in a financial position to provide generous subsidies to their allies, especially since they are in the middle of their own ambitious and costly force improvement program. The Soviets might, however, offer some of their older, but still-combat-capable equipment now being displaced by their best models—such as SA-6s, SA-8s, and modernized T-62 tanks—to the East Europeans on concessionary terms. East Germany and Bulgaria have, in fact, received refurbished T-62s. Such measures will result in a genuine improvement of non-Soviet capabilities, but will not close the gap in force disparities. In some cases—aircraft, for example—the gap between Soviet and NSWP forces certainly will widen because of the large differences in capability between the newest Soviet aircraft and the older equipment the East Europeans might buy. [ ]

220. The Soviets could give the East Europeans an even larger stake in the production of sophisticated weapons. This would require a policy decision by the Soviets to share some of their more sensitive designs and technical manufacturing processes, something they have been unwilling to do in the past. Furthermore, Moscow would have to invest heavily in upgrading East European industrial plants that are not now capable of producing advanced technology weapons. Should the Soviets make such a decision—giving the East Europeans real economic incentive to modern-

ize—they could probably not begin to series-produce advanced weapons until the 1990s. [ ]

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221. The Soviets almost certainly are aware of the operational price they may pay if their allies are not able to perform their assigned missions alongside Soviet forces because of force disparities. The more poorly equipped NSWP forces in a multinational Pact campaign would be:

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- Less capable of executing breakthrough operations or exploiting attacks deep in enemy rear areas.
- Less capable of protecting the front's flanks.
- More vulnerable to NATO airstrikes and counterattacks.

At the very least these forces might slow the momentum of the attack achieved by superior Soviet forces and thus threaten the very basis of Soviet war plans—

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222. The Soviets could partially overcome these operational problems by relieving the East European forces of responsibility for portions of their wartime missions. The Soviets are probably experimenting with that option. [ ]

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223. On a piecemeal basis, the Soviets probably will continue to compensate for the most glaring East European military deficiencies. For instance, Moscow has substantially increased its logistic base in East Germany, lessening its dependence on the railroad transportation network that transits Poland from the USSR. The Soviets might also plan and train for a larger, earlier commitment of USSR-based forces to wartime operations to assist their allies. Such changes would provide short-term solutions to Moscow's problems, but over the long term the disparity between Soviet and East European capabilities is likely to continue widening. [ ]

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## ANNEX A

## Defense Spending: Implications of the Projections

## Purpose

This annex examines the resource implications of Soviet general purpose forces as projected by this Estimate. It analyzes past and future trends of expenditures for general purpose forces against the backdrop of projected Soviet economic growth. It explores what effect economic growth may have on future levels of general purpose forces, and whether Moscow's future defense spending strategy will be tempered by its assessment of the health of the Soviet economy.

Estimates of the ruble costs of Soviet military activities are intended as an indicator of the level and trend of resources devoted to defense. These estimates allow us to examine the effect of economic factors on the defense effort and, conversely, to analyze the impact of the drain the military imposes on the economy. We are also able to analyze trends in subaggregates of the total—for instance, the general purpose forces mission. By comparing spending trends for major classes of general purpose weapon systems, the ruble cost estimate helps us to gauge the relative priorities assigned by the Soviets to various military programs. To capture real growth of defense expenditures, the ruble estimate is expressed in constant 1970 prices.

Although this NIE seeks to project forces through the year 2000, our insight into the growth of Soviet forces and the health of the Soviet economy in the 1990-2000 period is too uncertain to make definitive judgments about the military burden imposed on the economy. This section, therefore, concentrates on military-economic resource allocation issues only up to 1990.

## Results of the Ruble Estimate

## Historical Patterns

Our most recent estimate of Soviet expenditures for general purpose forces shows that total outlays for this

mission

rose 3 to 4 percent per year from 1966 until 1976. Land arms—procurement of weapons for the Ground Forces—experienced the highest rate of growth, at over 5 percent per year. After 1976, however, almost all components of general purpose forces grew slower, with rates below 2 percent per year. Only Military Transport Aviation (VTA) showed considerably faster growth during 1977-83 than before 1976.

## General purpose weapons procurement

followed the same general growth pattern. During the 1966-76 period, it rose almost 4 percent per year, mainly as a result of an expansion of the air, naval, and ground forces. After 1976, however, growth of general purpose weapons procurement virtually ceased. The exception was again VTA, where annual procurement continued to grow by almost 7 percent.

## Future Growth Outlook

The Intelligence Community does not currently publish future cost estimates for either total defense spending or mission subaggregates of that total. We can, however, assess cost implications of future general purpose forces as implied by this NIE.

The force levels in this NIE imply total Soviet expenditures for the general purpose mission will increase 3 to 4 percent per year through the end of the decade. Soviet costs for general purpose aircraft will increase 4 to 5 percent per year. Procurement of general purpose weapons will grow almost 5 percent per year for the rest of the 1980s, about a percentage point higher than the 1966-76 rate. Procurement of naval equipment and aircraft, including those for the VTA, would grow at a rate 2 percentage points higher than before 1976. Future procurement growth of land arms, however, is likely to be about 3 percentage points below the growth rate of 1966-76, but well above the increases of the 1977-83 period.

## Economic Performance

In the decade since the mid-1970s, the Soviet economy has grown at the slowest rate of the



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post-World War II era. Economic growth eventually fell below 2 percent for three consecutive years—1979, 1980, and 1981. This decline was especially noticeable in industrial growth. The average annual growth of industrial output during the 1976-82 period was about half of the average annual growth from 1971 to 1975. But the economy has been doing somewhat better recently. Gross national product increased by almost 4 percent in 1983 and growth has been maintained in most sectors in 1984, although GNP will rise by only 2 percent in 1985 because of a poor harvest. [REDACTED]

The upturn of Soviet economic growth reflects improvement in two major factors that contributed to the preceding slowdown. First, growth of industries producing key basic materials rose sharply after falling for several years and transportation rebounded from its poor 1982 performance. Second, overall productivity stabilized after a period of marked decline. We believe that unmeasured increases in hours worked and relief of bottlenecks affected productivity favorably. Improvements in morale, efficiency, and management also may have helped. [REDACTED]

On the basis of the improvement noted in Soviet economic performance in 1982, 1983, and 1984, we believe that average annual GNP growth for the 1980s will probably be about 2½ percent. Our analysis suggests that the average annual rate of increase over the decade is not likely to exceed 2½ to 3 percent. Only a fundamental improvement in productivity appears to offer the potential for moving longer term growth above 3 percent. Such improvement seems unlikely, particularly in view of the increasing cost of introducing new plant and equipment into more remote areas of the country. The dilemma would be much more acute if Soviet leaders attempted to accelerate growth in defense spending. [REDACTED]

#### Economic Implications of Future Modernization

Production of weapons, including those for the general purpose forces, draws heavily on those industrial sectors that are most important for economic growth. These industries include machinery, metals, energy, and chemicals. We know that there is a great deal of interdependence among these industrial branches. For example, the machine-building and metalworking (MBMW) sector produces many investment goods and is also responsible for the production of such military hardware as general purpose weapons. It is also clear that much of the military demand

consists of indirect purchases from non-MBMW sectors of the economy; for example, it requires intermediate inputs that come from other sectors, such as metallurgy. Such industrial integration makes it clear that an expansion of general purpose forces would compete for resources with civilian projects as well as with other defense programs. We examine two possibilities below—one where general purpose forces alone are modernized and a second where there is a balanced modernization of Soviet forces. [REDACTED]

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#### General Purpose Forces Modernization Alone

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In this scenario we examine the effect of increased procurement of general purpose forces weapons while holding the procurement growth of the other weapons categories at the current slow rate. An expansion of only the general purpose forces would have little effect on the growth of the Soviet economy in terms of the ratio of defense spending to total GNP. [REDACTED]

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[REDACTED] Raising procurement of general purpose weapons at rates implied by this NIE would increase the defense burden by less than 1 percentage point by 1990. [REDACTED]

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Looking purely at shares of total defense expenditures and shares of GNP allocated to general purpose forces may underemphasize the importance and impact of a reallocation of resources in favor of this mission, however. Aside from drawing from those industrial sectors most important for economic growth as described above, most general purpose weapons programs have close counterparts in the civilian sector. For example, higher tank or APC production could decrease the number of trucks and railroad cars available to the civilian sector. Such shortages have a clearly negative effect on economic growth because they cause transportation bottlenecks, decline in productivity, spot shortages of industrial inputs, and other economic disruptions. [REDACTED]

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#### Balanced Modernization of Soviet Forces

We believe it is more likely that general purpose forces will not be the only forces experiencing growth in the future. If the Soviets increase general purpose weapons spending, then they will also probably decide to increase spending for strategic programs. This would result in growth rates for total defense spending resembling those of the 1966-76 period (4 to 5 percent). [REDACTED]

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A policy decision to pursue an intensified defense buildup would be costly in terms of economic performance. If economic growth were slow, procurement would consume all of the anticipated growth in such key sectors as metallurgy. In such a scenario, the way to increase supplies of metallurgical products to the civilian sectors would be to boost imports. Such actions would cut into hard currency holdings, which otherwise could be used to finance imports of grain and technologically advanced machinery.<sup>5</sup> In addition, labor requirements would grow as a result of simultaneous expansion of general purpose forces and strategic programs at a time when net increments to the labor force would grow only slightly through the remainder of the decade. The only way to meet these increased requirements would be to accelerate labor productivity growth, divert labor resources from other sectors of the economy, or increase hours worked or labor participation rates, or to undertake some combination of these three. The accompanying restrictions

<sup>5</sup> Following is an alternative view. It holds that an "intensified defense buildup," combined with slower economic growth, would clearly force Soviet leaders to make some difficult choices, but it does not maintain that the situation they would face is as extreme (either/or) as portrayed above. The range of choices and actions is wider than indicated in this NIE. [REDACTED]

on consumption growth would hamper worker morale and suppress potential productivity gains. Economic growth at pre-1975 rates would offset somewhat the negative impact of the rate of defense growth on the economy and allow some increase of supplies to the civilian portions of the economy, and the share of metallurgy for procurement would grow only slightly above 1982 levels. [REDACTED]

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### Conclusion

Despite the economic consequences of higher spending either overall or only for the GP mission, the pressure to step up defense procurement must be intense for the Kremlin given the state of Soviet-US relations and the recent increases in US spending on military hardware. If the Soviets choose to increase the growth of total defense spending, a dilemma involving conflicting claims—defense, investment, and consumption—appears likely to confront the leadership for the rest of the decade. We must keep in mind, however, that, even if defense spending growth remains at rates below those implied by this NIE during the rest of this decade and economic growth remains in the 2- to 3-percent range, the Soviets could continue major weapons deployment programs and proceed with their force modernization. [REDACTED]

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## ANNEX C

## Warsaw Pact Manpower Issues

During the 1980s and through the mid-1990s the USSR and most of the non-Soviet Warsaw Pact (NSWP) countries will be faced with manpower problems due to a decline in the pool of draft-age youths. While these problems are manageable, they will require adjustments in draft policies. The countries will be forced to adopt measures to economize in the use of both military and civilian manpower. Conscription terms could be extended, a higher percentage of draft-age youths could be conscripted, and unit manning levels could be reduced. These steps could lead to some reductions in unit readiness and in overall force readiness. We believe the Pact countries, particularly the USSR, most likely will opt for a modest increase in the percent of 18-year-olds drafted and for a reduction of the number of "unskilled" positions filled during peacetime. Greater difficulties will also be experienced in attracting volunteers for officer and specialist slots, and shortages are possible. Greater reliance will be placed on reservists and perhaps on enlisting women. These steps will allow them to maintain their forces close to current levels during the 1980s. Later in the 1990s, an increase in the number of potential draftees should alleviate manpower problems in most of the countries. Given the vast pool of reservists, all of the Pact countries would be able to mobilize enough manpower to fill out all their forces in wartime. The reservists, however, would require refresher training to regain military skills. The amount of training would depend on the skills required. [REDACTED]

## Soviet Union

The Soviet Union has been experiencing a decline in the number of 18-year-olds since the mid-1970s. This is due primarily to demographic distortions created during the war years. The number of males reaching draft age in 1986 will be 76 percent of the postwar peak in 1978, and there will be no quick recovery in manpower levels. The number of males reaching draft age will not return to the 1980 level through the year 2000. [REDACTED]

While declining birthrates resulted in fewer 18-year-olds,<sup>7</sup> Soviet requirements for servicemen have continued to grow. Even if the Soviets drafted 90 percent of 18-year-old males and kept units manned at levels common in the 1970s, a shortage of new soldiers would exist from 1980 to 1998. In the late 1950s and early 1960s the Soviets coped with a more severe problem of this kind by reducing the number of troops on active duty. When the number of potential inductees increased, manning levels in active forces rose. [REDACTED]

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We have observed some Soviet responses to these shortages. Student deferments at most academic institutes have been eliminated. Workers at military production and research facilities also used to receive deferments from conscription. In early 1984 the Soviets began to draft some workers at 90 percent of these enterprises. [REDACTED]

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The pressure on manpower also has been observed in the forces themselves. We believe that in the 1970s the Soviets maintained their divisions in the groups of forces in Eastern Europe at close to full strength. In the late 1970s and early 1980s, the Soviets expanded these divisions, requiring more personnel, but did not increase the number of soldiers actually assigned to them. As a result of this increase in authorized manning, with no real increase in numbers assigned, the percentage of overall manning has dropped to between 80 and 85 percent of authorized wartime strength. [REDACTED]

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In addition to problems with total numbers, the Soviets also face a change in the ethnic composition of their forces. In the late 1960s the non-Slavic share of the draft-age population began to grow rapidly—it now stands at 35 percent and will reach at least 39 percent by the end of this decade. This shift toward non-Slavic groups has intensified the military leadership's longstanding concerns about non-Slavic soldiers. Open-press articles cite three ethnic-related problems: Russian-language deficiencies, lower educational achievement, and antipathy between nationalities. [REDACTED]

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<sup>7</sup> The draft age was 19 until 1968, when it was lowered to 18. [REDACTED]

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The June 1983 Central Committee plenum directed that schools, particularly preilitary programs, intensify Russian-language instruction, that political indoctrination of conscripts give more prominence to ethnic issues, and that more non-Slavic candidates be "nominated" for officer schools. None of these moves represents a fundamental reform, however, and none is likely to achieve quick results. [REDACTED]

Since upgrading education and language skills among non-Slavs will be a slow process, the military will have to rely on its ability to assign conscripts to positions that match their abilities. We do not know the details of Soviet assignment practices, but it is clear that units with minimal security or skill requirements have highly disproportionate numbers of ethnic minorities. We estimate that about 65 percent of the conscripts assigned to noncombat forces (construction, railroad, and internal security) are non-Slavs, twice the non-Slavic share of the draft-age population in 1980. As a result, the combat force has disproportionately few non-Slavs. We estimate that, because of intensifying demographic pressure, the share of non-Slavs in the combat force has risen from 9 percent in 1970 to 22 percent today. By 1990 this share could reach 30 percent. [REDACTED]

Our estimates imply that in the late 1960s the combat force could be relatively selective, taking about 20 percent of non-Slavic conscripts, presumably the better educated 20 percent. The rest apparently did construction work or prison guard duty. By 1980 the combat force had about 40 percent of the non-Slavic conscripts, and if overall manpower levels remain constant this figure will reach 50 percent by 1990. The growing proportion of non-Slavs in the draft pool will force the Soviets to accept more substandard Slavic soldiers and more non-Slavic inductees into the combat forces. This will place a greater burden on the military training establishment and the Soviets will be forced to rely more heavily on reservists to fill out units in wartime. [REDACTED]

Despite conscript shortages, the Soviets would have no problem in filling out their wartime force with reservists. The Soviets maintain a large reserve manpower pool, consisting of about 55 million men below the age of 50. Approximately 10 million have been on active duty within the past five years. In the event of general mobilization, an estimated 3 million reservists would be needed to expand the force structure from a peacetime level of 5.5 million to an estimated strength of approximately 8.5 million men. [REDACTED]

Although the size of the Soviet reserve pool is impressive, the quality of the reservists generally is not. There are no reserve units as such, but rather an aggregation of men, most of whom have served a tour of mandatory active duty. The reserve training provided these men is of uneven quality and frequency. Most Soviet reservists, in fact, are unlikely to be called up more than once for training. An exception to this is the relatively small group whose prior military service or mobilization assignments require the technical or military skills necessary to operate or maintain complex equipment such as radars, missiles, artillery, antiaircraft guns, and engineering equipment. A probable reason for the lack of systematic reserve training is the disruptive effect on the civilian economy if training were more extensive. [REDACTED]

#### Non-Soviet Warsaw Pact

Most NSWP countries will not encounter the same kind of demographic pressures that face the Soviets. Their military forces are not as large as the Soviets' in proportion to the population. In the past, the NSWP countries have been able to man their forces by conscripting about 60 percent of available 18-year-old males. During the mid-1980s and 1990s most will encounter a reduction in the pool of available youths. With the exception of East Germany, we believe the NSWP countries will be able to deal with the problem by drafting a slightly higher percentage of 18-year-olds. [REDACTED]

The East Germans historically have drafted about 60 percent of draft-age males. Their mental and physical standards have been high. Starting in 1984 and continuing through the end of the century, the East Germans will be forced either to draft a higher percentage of 18-year-olds or to reduce manning levels in the active force. We believe the East Germans will maintain unit strengths. They will deal with the shortage of available draft-age males in part by drafting students and defense workers who normally would have been granted deferments and those who would previously have been below standards. [REDACTED]

We expect that the NSWP countries will rely heavily on reservists not only to fill out forces in wartime, but also to come on active duty during peacetime as well. Because of their role and training, NSWP reservists may be better prepared than Soviet reservists, and the units that depend on them may be more effective after mobilization than comparable

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Soviet units. A large percentage of the NSWP divisions, particularly those opposite NATO's Central Region, are manned at high strength in peacetime and require relatively few reservists to mobilize. As the manpower available for conscription declines in the 1980s, however, the role of reservists in these countries may increase. [REDACTED]

Although the NSWP countries will face demographic restrictions during the next two decades, the problem should not affect their capability to man their peacetime or wartime forces. The countries have more than enough reservists. If they were to mobilize, 1.1 million reservists would be required. Two million reservists have served on active duty in the past five years [REDACTED]

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## ANNEX D

### Projections Tables

**Table D-1**  
**Ground Forces Summary: <sup>a</sup>**  
**Total Warsaw Pact <sup>b</sup>**

	1985			1990			1985			2000		
	Soviet	NSWP	Total	Soviet	NSWP	Total	Soviet	NSWP	Total	Soviet	NSWP	Total
Active MRDs	142	38	180	147	38	185	148	38	186	148	38	186
Active TDs	51	15	66	53	15	68	54	15	69	54	15	69
Airborne and other divisions	8	2	10	8	2	10	8	2	10	8	2	10
Total active divisions	201	55	256	208	55	263	210	55	265	210	55	265
Mobilization-base divisions	13	12	25	3	16	19	9	16	25	18	16	34
Ready MRDs	50	27	77	43	27	70	44	27	71	45	27	72
Ready TDs	25	13	38	28	13	41	28	13	41	28	13	41
Not-ready MRDs	104	22	126	106	26	132	113	26	139	119	26	145
Not-ready TDs	27	3	30	26	3	29	26	3	29	28	3	31
Total divisions	214	67	281	211	71	282	219	71	290	228	71	299
New-type army corps	2	0	2	9	0	9	9	0	9	9	0	9
Army commands	29	15	44	38	15	53	38	15	53	39	15	54
Army corps	11	1	12	4	1	5	4	1	5	3	1	4

<sup>a</sup> In all the "Ground Forces Summary" tables the "totals" are not always additive. "Total active divisions" exclude "mobilization-base divisions." However, "mobilization-base divisions" are included in "total divisions" and, as appropriate, with "not-ready MRDs" or "not-ready TDs."

<sup>b</sup> One view projects that all existing mobilization-base divisions will be activated by the end of 1987, that no others will be formed, and that the Soviet Ground Forces will peak at 210 active divisions and nine independent army corps.

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**Table D-2**  
**Ground Forces Summary:**  
**Total Opposite NATO—**  
**Southwestern, Western, and Northwestern TMOs**

	1985			1990			1995			2000		
	Soviet	NSWP	Total	Soviet	NSWP	Total	Soviet	NSWP	Total	Soviet	NSWP	Total
Active MRDs	55	38	93	54	38	92	54	38	92	54	38	92
Active TDs	40	15	55	41	15	56	42	15	57	42	15	57
Airborne and other divisions	4	2	6	4	2	6	4	2	6	4	2	6
Total active divisions	99	55	154	99	55	154	100	55	155	100	55	155
Mobilization-base divisions	5	12	17	2	16	18	2	16	18	5	16	21
Ready MRDs	22	27	49	18	27	45	19	27	46	19	27	46
Ready TDs	19	13	32	21	13	34	21	13	34	21	13	34
Not-ready MRDs	37	22	59	37	26	63	37	26	63	38	26	64
Not-Ready TDs	22	3	25	21	3	24	21	3	24	23	3	26
Total divisions	104	67	171	101	71	172	102	71	173	105	71	176
New-type army corps	1	0	1	6	0	6	6	0	6	6	0	6
Army commands	16	15	31	18	15	33	18	15	33	19	15	34
Army corps	4	1	5	3	1	4	3	1	4	2	1	3

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**Table D-3**  
**Ground Forces Summary:**  
**Western TMO \***

	1985			1990			1995			2000		
	Soviet	NSWP	Total	Soviet	NSWP	Total	Soviet	NSWP	Total	Soviet	NSWP	Total
Active MRDs	29	17 <sup>b</sup>	46	28	17	45	28	17	45	28	17	45
Active TDs	31	12	43	31	12	43	31	12	43	31	12	43
Airborne and other divisions	2	2 <sup>c</sup>	4	2	2	4	2	2	4	2	2	4
Total active divisions	62	31	93	61	31	92	61	31	92	61	31	92
Mobilization-base divisions	1	9	10	0	13	13	0	13	13	0	13	13
Ready MRDs	15	11 <sup>d</sup>	26	13	11	24	14	11	25	14	11	25
Ready TDs	17	10	27	19	10	29	19	10	29	19	10	29
Not-ready MRDs	15	14 <sup>e</sup>	29	15	18	33	14	18	32	14	18	32
Not-ready TDs	14	3	17	12	3	15	12	3	15	12	3	15
Total divisions	63	40	103	61	44	105	61	44	105	61	44	105
New-type army corps	1	0	1	3	0	3	3	0	3	3	0	3
Army commands	12	7	19	12	7	19	12	7	19	12	7	19
Army corps	1	0	1	1	0	1	1	0	1	1	0	1

\* Includes Soviet forces in East Germany, Poland, Czechoslovakia, and the Carpathian, Baltic, and Belorussian MDs. Also includes East German, Polish, and Czechoslovak national forces.

<sup>b</sup> Includes seven Polish mechanized infantry divisions.

<sup>c</sup> Includes one Polish sea landing division.

<sup>d</sup> Includes two Polish mechanized infantry divisions.

<sup>e</sup> Includes five Polish mechanized infantry divisions.

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**Table D-4**  
**Ground Forces Summary:**  
**Southwestern TMO\***

	1985			1990			1995			2000		
	Soviet	NSWP	Total	Soviet	NSWP	Total	Soviet	NSWP	Total	Soviet	NSWP	Total
Active MRDs	17	21	38	16	21	37	16	21	37	16	21	37
Active TDs	9	3	12	10	3	13	11	3	14	11	3	14
Airborne divisions	1	0	1	1	0	1	1	0	1	1	0	1
Total active divisions	27	24	51	27	24	51	28	24	52	28	24	52
Mobilization-base divisions	2	3	5	1	3	4	1	3	4	4	3	7
Ready MRDs	4	16	20	3	16	19	3	16	19	3	16	19
Ready TDs	2	3	5	2	3	5	2	3	5	2	3	5
Not-ready MRDs	14	8	22	13	8	21	14	8	22	15	8	23
Not-ready TDs	8	0	8	9	0	9	9	0	9	11	0	11
Total divisions	29	27	56	28	27	55	29	27	56	32	27	59
New-type army corps	0	0	0	2	0	2	2	0	2	2	0	2
Army commands	3	8	11	4	8	12	4	8	12	5	8	13
Army corps	1	1	2	1	1	2	1	1	2	0	1	1

\*Includes Soviet Ground Forces in the Odessa and Kiev MDs and in Hungary. Also includes Hungarian, Bulgarian, and Romanian national forces.

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**Table D-5**  
**Ground Forces Summary:**  
**Northwestern TMO\***

	1985	1990	1995	2000
Active MRDs	9	10	10	10
Active TDs	0	0	0	0
Airborne divisions	1	1	1	1
Total active divisions	10	11	11	11
Mobilization-base divisions	2	1	1	1
Ready MRDs	3	2	2	2
Ready TDs	0	0	0	0
Not-ready MRDs	8	9	9	9
Not-ready TDs	0	0	0	0
Total divisions	12	12	12	12
New-type army corps	0	1	1	1
Army commands	1	2	2	2
Army corps	2	1	1	1

\* Includes Soviet Ground Forces in the Leningrad MD.

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**Table D-6**  
**Ground Forces Summary:**  
**Far East TMO \***

	1985	1990	1995	2000
Active MRDs	40	42	43	43
Active TDs	6	7	7	7
Airborne divisions	0	0	0	0
Total active divisions	46	49	50	50
Mobilization-base divisions	3	1	4	7
Ready MRDs	18	15	15	15
Ready TDs	4	5	5	5
Not-ready MRDs	25	28	32	35
Not-ready TDs	2	2	2	2
Total divisions	49	50	54	57
New-type army corps	1	2	2	2
Army commands	8	11	11	11
Army corps	3	1	1	1

\* Includes forces in the Far East, Transbaikal, and Siberian MDs and Soviet forces in Mongolia. Soviet forces in the Central Asian MD may be used, in certain scenarios, in the Far Eastern TMO, but are normally assigned to the Southern TMO.

**Table D-7**  
**Ground Forces Summary:**  
**Southern TMO \***

	1985	1990	1995	2000
Active MRDs	33	36	36	36
Active TDs	2	2	2	2
Airborne divisions	3	3	3	3
Total active divisions	38	41	41	41
Mobilization-base divisions	4	0	1	3
Ready MRDs	9	9	9	9
Ready TDs	1	1	1	1
Not-ready MRDs	28	27	28	30
Not-ready TDs	1	1	1	1
Total divisions	42	41	42	44
New-type army corps	0	1	1	1
Army commands	5	9	9	9
Corps	4	0	0	0

\* Includes Soviet Ground Forces in the Transcaucasus, North Caucasus, Turkestan, and Central Asian MDs. Also includes Soviet Ground Forces in Afghanistan.

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**Table D-8**  
**Ground Forces Summary:**  
**Strategic Reserve \***

	1985	1990	1995	2000
Active MRDs	14	15	15	15
Active TDs	3	3	3	3
Airborne divisions	1	1	1	1
Total active divisions	18	19	19	19
Mobilization-base divisions	1	0	2	3
Ready MRDs	1	1	1	2
Ready TDs	1	1	1	1
Not-ready MRDs	14	14	16	16
Not-ready TDs	2	2	2	2
Total divisions	19	19	21	22
New-type army corps	0	0	0	0
Army commands	0	0	0	0
Army corps	0	0	0	0

\* Includes Soviet forces in the Moscow, Volga, and Ural MDs.

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**Table D-9 •**  
**Ground Weapons Summary: Total •**

Total Force	1985		1990		1995		2000	
	Soviet	NSWP	Soviet	NSWP	Soviet	NSWP	Soviet	NSWP
Medium tanks	52,500	14,000	56,000	15,500	58,500	16,000	60,000	16,500
Major artillery pieces <sup>c</sup>	34,500	6,500	36,500	7,000	41,000	8,000	43,500	8,750
APCs	28,500	13,000	32,500	13,500	36,500	13,500	38,500	13,500
IFVs	29,000	3,100	36,500	4,800	45,000	6,250	48,500	6,750
SAMs <sup>d</sup>	4,500	900	6,500	1,600	8,000	2,100	8,750	2,300
MRLs	6,000	1,000	7,500	1,400	8,250	1,800	8,750	2,000
TSSMs	1,500	350	2,000	400	2,100	400	2,100	400
ATGMs <sup>e</sup>	3,200	850	5,000	1,300	6,000	1,600	7,500	1,800

Notes (including rounding rules) for all ground weapons tables follow table D-16.



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**Table D-10 •**  
**Ground Weapons Summary: Forces Opposite NATO •**  
**Western, Southwestern, and Northwestern TMOs**

	1985		1990		1995		2000	
	Soviet	NSWP	Soviet	NSWP	Soviet	NSWP	Soviet	NSWP
Medium tanks	26,500	14,000	29,000	15,500	30,000	16,000	31,000	16,500
Major artillery pieces <sup>c</sup>	17,000	6,500	18,500	7,000	21,500	8,000	22,500	8,750
APCs	12,000	13,000	15,000	13,500	15,500	13,500	16,000	13,500
IFVs	14,500	3,100	19,500	4,800	24,500	6,250	26,000	6,750
SAMs <sup>d</sup>	2,800	900	3,700	1,600	4,400	2,100	4,700	2,300
MRLs	2,900	1,000	3,800	1,400	4,400	1,800	4,600	2,000
TSSMs	850	350	1,100	400	1,100	400	1,100	400
ATGMs <sup>e</sup>	1,500	850	2,500	1,300	3,100	1,600	3,700	1,800

Notes (including rounding rules) for all ground weapons tables follow table D-16.



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**Table D-11 •**  
**Ground Weapons Summary: Western TMO •**

	1985		1990		1995		2000	
	Soviet	NSWP	Soviet	NSWP	Soviet	NSWP	Soviet	NSWP
Medium tanks	19,000	9,000	19,500	10,000	20,000	10,500	20,000	10,500
Major artillery pieces <sup>c</sup>	11,000	3,500	12,000	4,000	14,000	4,750	15,000	5,250
APCs	7,000	6,500	8,250	8,000	8,500	7,750	9,000	7,250
IFVs	11,500	2,750	14,000	3,750	17,500	4,500	18,000	5,000
SAMs <sup>d</sup>	2,200	650	2,700	1,000	2,900	1,200	3,200	13,000
MRLs	1,700	650	2,400	850	2,600	1,100	2,700	1,100
TSSMs	550	200	700	250	700	250	750	250
ATGMs <sup>e</sup>	1,100	450	1,900	750	2,200	900	2,500	1,000

Notes (including rounding rules) for all ground weapons tables follow table D-16.

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**Table D-12 •**  
**Ground Weapons Summary: Southwestern TMO •**

	1985		1990		1995		2000	
	Soviet	NSWP	Soviet	NSWP	Soviet	NSWP	Soviet	NSWP
Medium tanks	6,500	4,750	7,750	5,250	8,250	5,500	9,250	5,750
Major artillery <sup>c</sup>	4,750	3,000	4,750	3,000	5,250	3,250	5,500	3,500
APCs	2,500	6,250	2,750	5,500	3,000	5,500	3,250	6,000
IFVs	2,250	350	4,750	1,000	6,500	1,750	7,500	1,750
SAMs <sup>d</sup>	500	225	750	550	1,100	850	1,100	950
MRLs	950	350	1,000	500	1,300	700	1,300	850
TSSMs	175	150	225	150	250	150	250	150
ATGMs <sup>e</sup>	250	400	400	550	500	650	700	750

Notes (including rounding rules) for all ground weapons tables follow table D-16.

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**Table D-13<sup>a</sup>**  
**Ground Weapons Summary:**  
**Northwestern TMO<sup>b</sup>**

	1985	1990	1995	2000
Medium tank	1,200	1,600	1,600	1,600
Major artillery pieces <sup>c</sup>	1,400	1,900	2,000	2,200
APCs	2,600	3,800	3,800	3,800
IFVs	500	500	600	600
SAMs <sup>d</sup>	125	225	350	350
MRLs	250	400	500	550
TSSMs	100	125	125	125
ATGM <sup>e</sup>	175	225	350	450

Notes (including rounding rules) for all ground weapons tables follow table D-16.

**Table D-14<sup>a</sup>**  
**Ground Weapons Summary:**  
**Far Eastern TMO<sup>b</sup>**

	1985	1990	1995	2000
Medium tanks	13,500	13,500	14,000	15,000
Major artillery pieces <sup>c</sup>	8,500	8,500	9,000	9,750
APCs	9,000	9,000	10,500	11,500
IFVs	6,750	7,750	9,250	10,000
SAMs <sup>d</sup>	950	1,400	1,800	2,100
MRLs	1,800	1,900	1,900	1,900
TSSMs	300	400	450	450
ATGM <sup>e</sup>	1,100	1,400	1,400	1,900

Notes (including rounding rules) for all ground weapons tables follow table D-16.

**Table D-15<sup>a</sup>**  
**Ground Weapons Summary:**  
**Southern TMO<sup>b</sup>**

	1985	1990	1995	2000
Medium tanks	8,000	8,750	9,000	9,750
Major artillery pieces <sup>c</sup>	6,000	6,000	6,750	7,500
APCs	5,500	7,000	8,750	9,250
IFVs	6,250	7,500	8,250	8,750
SAMs <sup>d</sup>	600	1,000	1,300	1,400
MRLs	900	1,300	1,500	1,500
TSSMs	225	350	400	400
ATGM <sup>e</sup>	500	850	950	1,200

Notes (including rounding rules) for all ground weapons tables follow table D-16.

**Table D-16<sup>a</sup>**  
**Ground Weapons Summary:**  
**Strategic Reserve<sup>b</sup>**

	1985	1990	1995	2000
Medium tanks	4,300	4,600	5,000	5,300
Major artillery pieces <sup>c</sup>	3,000	3,300	3,600	3,800
APCs	1,800	1,400	1,500	1,800
IFVs	1,200	1,900	2,700	3,400
SAMs <sup>d</sup>	200	400	500	500
MRLs	400	500	500	700
TSSMs	100	125	125	125
ATGMs <sup>e</sup>	100	300	500	600

Notes (including rounding rules) for all ground weapons tables are on the next page.

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## Notes For Tables D-9-D-16

\* All weapons numbers have been rounded according to the following rules:

<u>Figures in range</u>	<u>Rounded to nearest</u>
1 through 49	5
50 through 249	25
250 through 999	50
1,000 through 4,999	100
5,000 through 9,999	250
10,000 and greater	500

Although printed subtotals are rounded, totals have been derived from nonrounded subtotals (not shown).

- <sup>b</sup> Weapons in active units only.
- <sup>c</sup> Tubes 100-mm or greater, excluding mortars.
- <sup>d</sup> Excludes shoulder-fired weapons.
- <sup>e</sup> Excludes manpacks.

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**Table D-17**  
**Soviet Tactical Air Force: Western TMO**

Aircraft	Current OB	1990			1995			2000		
		View A	View B	View C	View A	View B	View C	View A	View B	View C
Fighter										
SU-15 Flagon	36	0	0	0	0	0	0	0	0	0
MIG-21 Fishbed J/K/L/N	180	0	0	0	0	0	0	0	0	0
MIG-25 Foxbat A/E	65	62	65	36	62	32	0	0	0	0
MIG-23 Flogger B/G	680	515	467	356	225	301	112	90	85	0
MIG-29 Fulcrum	65	240	280	360	480	440	520	480	640	520
SU-27 Flanker	0	120	16	120	144	40	176	168	64	176
MIG-31 Foxhound	0	24	32	80	24	32	96	0	32	96
F-P-I (LRI) <sup>a</sup>	0	0	0	0	0	0	0	18	0	0
F-P-II (ASF) <sup>b</sup>	0	0	0	0	0	0	0	0	0	0
F-P-III (CAF) <sup>c</sup>	0	0	0	0	0	0	0	108	0	50
Ground attack										
MIG-21 Fishbed D/F/J/K/L/N	45	0	0	0	0	0	0	0	0	0
SU-7/17/20 Fitter A/C/D/H/K	315	135	270	90	0	225	45	0	90	0
MIG-23/27 Flogger B/D/J	400	225	351	360	0	195	90	0	180	0
SU-24 Fencer A/D	45	150	90	90	120	90	90	0	90	30
SU-25 Frogfoot	10	165	200	108	165	200	108	130	200	36
MIG-29 Fulcrum-P-GAK	0	40	110	160	240	310	440	280	440	480
SU-27 Flanker P-GAK	0	24	0	0	120	0	40	144	0	120
B-P-II (PAA) <sup>d</sup>	0	0	0	0	60	0	0	180	0	60
F-P-IV (GSF) <sup>e</sup>	0	0	0	0	0	0	0	35	0	108
Reconnaissance/Electronic <sup>f</sup>										
MIG-21 Fishbed H	16	0	0	0	0	0	0	0	0	0
YAK-28 Brewer D	65	0	0	0	0	0	0	0	0	0
MIG-25 Foxbat B/D	47	41	41	41	16	16	16	16	16	16
SU-17 Fitter H/K	50	96	96	96	48	48	48	16	16	16
SU-24 Fencer	0	69	69	69	54	54	54	18	18	18
B-P-II (PAA)	0	0	0	0	0	0	0	16	16	16
RAM-M <sup>g</sup>	0	6	6	6	24	24	24	24	24	24
MIG-29 Fulcrum-P-Rec	0	0	0	0	64	64	64	64	64	64
SU-27 Flanker-P-Rec	0	0	0	0	24	24	24	60	60	60

Notes for all Soviet Tactical Air Force tables follow table D-22. For totals showing current tactical aviation order of battle, see tables 3 and 4 of the Discussion.

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**Table D-18**  
**Soviet Tactical Air Force: Southwestern TMO**

Aircraft	Current OB	1990			1995			2000		
		View A	View B	View C	View A	View B	View C	View A	View B	View C
Fighter										
SU-15 Flagon	35	0	0	0	0	0	0	0	0	0
MIG-21 Fishbed J/K/L/N	90	0	0	0	0	0	0	0	0	0
MIG-25 Foxbat A/E	0	0	0	0	0	0	0	0	0	0
MIG-23 Flogger B/G	225	135	180	225	90	45	45	0	0	0
MIG-29 Fulcrum	0	120	120	80	120	200	260	120	240	260
SU-27 Flanker	0	72	16	40	72	40	40	72	10	80
MIG-31 Foxhound	8	0	8	0	24	8	0	48	8	0
F-P-I (LRI) <sup>a</sup>	0	0	0	0	0	0	0	18	0	0
Ground attack										
SU-7/17/20 Fitter A/C/D/H/K	45	90	45	0	0	0	0	0	0	0
MIG-27 Flogger D/J	90	0	90	90	0	90	90	0	90	45
SU-24 Fencer A/D	30	30	30	30	0	30	30	0	30	0
SU-25 Frogfoot	30	36	64	36	36	80	36	36	80	0
MIG-29 Fulcrum-P-GAK	0	0	0	40	80	40	40	80	40	120
B-P-II (PAA) <sup>d</sup>	0	0	0	0	30	0	0	30	0	30
Reconnaissance/electronic <sup>e</sup>										
MIG-21 Fishbed H	15	0	0	0	0	0	0	0	0	0
YAK-28 Brewer D	55	0	0	0	0	0	0	0	0	0
MIG-25 Foxbat B/D	26	0	0	0	0	0	0	0	0	0
SU-17 Fitter H/K	62	32	32	32	16	16	16	16	16	16
SU-24 Fencer	0	12	12	12	12	12	12	12	12	12
RAM-M <sup>s</sup>	0	6	6	6	12	12	12	12	12	12
SU-27 Flanker-P-Rec	0	0	0	0	12	12	12	12	12	12

Notes for all Soviet Tactical Air Force tables follow table D-22. For totals showing current tactical aviation order of battle, see tables 3 and 4 of the Discussion.

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**Table D-19**  
**Soviet Tactical Air Force: Northwestern TMO**

Aircraft	Current OB	1990			1995			2000		
		View A	View B	View C	View A	View B	View C	View A	View B	View C
Fighter										
SU-15 Flagon	30	0	0	30	0	0	0	0	0	0
MIG-23 Flogger B/C	40	36	40	36	36	40	36	0	0	0
MIG-29 Fulcrum	0	0	40	0	0	40	40	0	80	40
MIG-31 Foxhound	0	24	0	0	24	0	0	24	0	0
F-P-I (LRI) <sup>a</sup>	0	0	0	0	0	0	0	18	0	0
F-P-III (CAF) <sup>c</sup>	0	0	0	0	0	0	0	36	0	40
Ground attack										
MIG-21 Fishbed D/F/J/K/L/N	45	0	0	0	0	0	0	0	0	0
SU-7/17/20 Fitter A/C/D/H/K	45	0	45	45	0	45	0	0	45	0
MIG-27 Flogger D/J	45	45	0	0	0	0	0	0	0	0
SU-24 Fencer A/C	0	30	30	30	30	30	30	0	30	30
MIG-29 Fulcrum-P-GAK	0	40	40	40	40	40	80	40	40	80
SU-27 Flanker-P-GAK	0	0	0	0	24	0	0	24	0	0
B-P-II (PAA) <sup>d</sup>	0	0	0	0	0	0	0	30	0	0
Reconnaissance/electronic <sup>e</sup>										
MIG-25 Foxbat B/D	12	12	12	12	0	0	0	0	0	0
SU-17 Fitter H/K	17	0	0	0	16	16	16	0	0	0
RAM-M <sup>s</sup>	0	6	6	6	6	6	6	6	6	6
MIG-29 Fulcrum-P-Rec	0	0	0	0	16	16	16	16	16	16
SU-27 Flanker-P-Rec	0	0	0	0	0	0	0	12	12	12

Notes for all Soviet Tactical Air Force tables follow table D-22. For totals showing current tactical aviation order of battle, see tables 3 and 4 of the Discussion.

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**Table D-20**  
**Soviet Tactical Air Force: Southern TMO**

Aircraft	Current OB	1990			1995			2000		
		View A	View B	View C	View A	View B	View C	View A	View B	View C
Fighter										
SU-15 Flagon	36	0	34	36	0	0	36	0	0	0
MIG-21 Fishbed J/K/L/N	90	0	45	0	0	0	0	0	0	0
MIG-25 Foxbat A/E	0	32	32	32	0	32	32	0	0	0
MIG-23 Flogger B/G	225	280	261	279	180	220	162	45	45	36
MIG-29 Fulcrum	0	80	40	120	160	160	120	240	320	240
SU-27 Flanker	0	48	16	0	96	32	80	120	56	80
MIG-31 Foxhound	0	24	16	0	24	16	0	24	16	24
TU-128 Fiddler B	0	0	18	0	0	0	0	0	0	0
Ground attack										
SU-7/17/20 Fitter A/C/D/H/K	315	90	270	270	0	0	135	0	90	0
MIG-23/27 Flogger B/D/J	175	135	66	180	45	0	90	0	0	0
SU-24 Fencer A/D	60	90	156	60	60	60	60	0	60	0
SU-25 Frogfoot	70	72	120	144	108	160	144	72	160	72
SU-29 Fulcrum-P-GAK	0	40	15	0	120	230	200	80	320	240
SU-27 Flanker-P-GAK	0	0	0	0	72	0	40	120	0	80
B-P-II (PAA) <sup>d</sup>	0	0	0	0	30	0	0	90	0	60
F-P-IV (GSF) <sup>e</sup>	0	0	0	0	0	0	0	36	0	144
Reconnaissance/electronic <sup>f</sup>										
YAK-28 Brewer D	14	0	0	0	0	0	0	0	0	0
MIG-25 Foxbat B/D	0	26	26	26	12	12	12	0	0	0
SU-17 Fitter H/K	28	62	0	0	32	32	32	16	16	16
SU-24 Fencer-P-Rec	0	42	42	42	42	42	42	27	27	27
RAM-M <sup>g</sup>	0	6	6	6	18	18	18	18	18	18
MIG-29 Fulcrum-P-Rec	0	16	16	16	64	64	64	64	64	64
SU-27-Flanker-P-Rec	0	0	0	0	0	0	0	36	36	36

Notes for all Soviet Tactical Air Force tables follow table D-22. For totals showing current tactical aviation order of battle, see tables 3 and 4 of the Discussion.

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**Table D-21**  
**Soviet Tactical Air Force: Far Eastern TMO**

	Current OB	1990			1995			2000		
		View A	View B	View C	View A	View B	View C	View A	View B	View C
Fighters										
SU-15 Flagon	160	66	0	64	0	0	32	0	0	0
MIG-21 Fishbed J/K/L/N	45	0	0	0	0	0	0	0	0	0
MIG-25 Foxbat A/E	32	0	32	0	0	0	0	0	0	0
MIG-23 Flogger B/G	339	270	327	324	135	165	171	0	45	0
MIG-29 Fulcrum	0	120	80	120	160	240	240	120	320	280
SU-27 Flanker	0	72	64	72	120	64	128	168	88	165
MIG-31 Foxhound	8	48	32	40	96	80	64	48	80	64
F-P-I (LRI) <sup>a</sup>	0	0	0	0	0	0	8	36	0	8
F-P-II (ASF) <sup>b</sup>	0	0	0	0	0	0	0	24	0	0
F-P-III (CAF) <sup>c</sup>	0	0	0	0	0	0	0	36	0	80
Ground attack										
MIG-21 Fishbed D/F/J/K/L/N	45	0	0	0	0	0	0	0	0	0
SU-7/17/20 Fitter A/C/D/H/K	270	165	180	225	0	90	45	0	45	0
MIG-23/27 Flogger B/D/J	180	180	90	180	135	45	135	0	45	45
SU-24 Fencer A/D	100	120	60	120	30	60	120	30	60	30
SU-25 Frogfoot	0	36	80	72	108	80	72	108	80	0
MIG-29 Fulcrum-P-GAK	0	40	40	0	120	160	160	160	200	200
SU-27 Flanker-P-GAK	0	0	0	0	72	0	80	96	0	120
B-P-II (PAA) <sup>d</sup>	0	30	0	0	90	0	0	90	0	90
F-P-IV (GSF) <sup>e</sup>	0	0	0	0	0	0	0	36	0	108
Reconnaissance/electronic <sup>f</sup>										
MIG-21 Fishbed H	32	0	0	0	0	0	0	0	0	0
YAK-28 Brewer D	38	0	0	0	0	0	0	0	0	0
MIG-25 Foxbat B/D	42	42	42	42	14	14	14	0	0	0
SU-17 Fitter H/K	32	32	32	32	32	32	32	16	16	16
SU-24 Fencer	0	27	27	27	27	27	27	21	21	21
RAM-M <sup>g</sup>	0	12	12	12	18	18	18	18	18	18
MIG-29 Fulcrum-P-Rec	0	16	16	16	32	32	32	59	59	59
SU-27 Flanker-P-Rec	0	0	0	0	24	24	24	24	24	24

Notes for all Soviet Tactical Air Force tables follow table D-22. For totals showing current tactical aviation order of battle, see tables 3 and 4 of the Discussion.

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Table D-22

## Soviet Tactical Air Force: Strategic Reserve

	Current OB	1990			1995			2000			
		View A	View B	View C	View A	View B	View C	View A	View B	View C	
Fighters											
MIG-21 Fishbed J/K/L/N	30	0	0	0	0	0	0	0	0	0	
MIG-23 Flogger B/G	45	45	45	45	45	45	45	0	0	0	
MIG-29 Fulcrum	20	40	40	40	40	40	40	80	80	40	
F-P-III (CAF) <sup>c</sup>	0	0	0	0	0	0	0	0	0	40	
Ground attack											
SU-7/17/20 Fitter A/C/D/H/K	45	45	0	0	0	0	0	0	0	0	
SU-24 Fencer A/D	0	30	0	0	30	0	0	0	0	0	
MIG-29 Fulcrum-P-GAK	0	0	40	40	0	40	40	40	40	40	
MIG-27 Flanker-P-GAK	0	0	0	0	24	0	0	24	0	0	
B-P-II (PAA) <sup>d</sup>	0	0	0	0	30	0	0	30	0	0	
Reconnaissance/electronic <sup>e</sup>											
MIG-25 Foxbat B/D	12	12	12	12	12	12	12	12	12	12	
SU-24 Fencer	10	12	12	12	12	12	12	0	0	0	
RAM-M <sup>s</sup>	0	0	0	0	6	6	6	6	6	6	
MIG-29 Fulcrum-P-Rec	0	0	0	0	0	0	0	16	16	16	

Notes for all Soviet Tactical Air Force tables are below. For totals showing current tactical aviation order of battle, see tables 3 and 4 of the Discussion.

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## Notes for Tables D-17-D-22

<sup>a</sup> One view projects that the F-P-I long-range interceptor (LRI) will replace the MIG-25 Foxbat and MIG-31 Foxhound aircraft. The aircraft will probably have a subsonic cruise/supersonic dash (Mach 3.0) capability, or it could have a supercruiser configuration capable of sustained cruise at supersonic speeds.

<sup>b</sup> The same view projects that the F-P-II air-superiority fighter (ASF) will replace the MIG-23 Flogger and SU-15 Flagon. It is expected to have an all-aspect airborne intercept (AI) radar; a lookdown/shoot-down capability against small, low-altitude targets; and a capability to operate from short fields.

<sup>c</sup> It projects that the F-P-III counterair fighter (CAF) will replace the MIG-29 Fulcrum and SU-15 Flagon. It is expected to have an unrefueled range of 500 nm, to be capable of aerial refueling, and to fly at speeds up to Mach 2. Reconnaissance versions of the F-P-I, -II, and -III will be fielded.

<sup>d</sup> It projects that the B-P-II peripheral-air-attack (PAA) aircraft will replace the SU-24 Fencer. It is expected to have a longer range and somewhat larger payload than the Fencer. It will also have an accurate terrain-following navigation system. Both reconnaissance (B-P-II/Rec) and electronic warfare (B-P-II/ECM) versions will be fielded.

<sup>e</sup> It projects that the F-P-IV ground-support fighter-bomber, will replace the SU-25 Frogfoot. It is expected to be a small, adverse-weather, night-capable attack fighter-bomber for close air support.

<sup>f</sup> All figures for reconnaissance and electronic aircraft are agreed upon by the Intelligence Community.

<sup>g</sup> It projects the RAM-M to be a new type of high-altitude tactical reconnaissance aircraft. It will be fitted with SIGINT, ELINT, PHOTINT, and COMINT systems.

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**Table D-23**  
**Non-Soviet Warsaw Pact Tactical Air Forces**

Aircraft	1985	1990	1995	2000
<b>Ground attack</b>				
MIG-15 Fagot	58	0	0	0
MIG-17 Fresco	255	35	0	0
SU-7/17/20/22 Fitter A/C/H/I/K	130	289	289	259
MIG-21 Fishbed J	39	40	40	0
MIG-23 Flogger H	103	117	117	117
SU-25 Frogfoot	12	78	102	102
L-39 Albatross	0	15	15	15
IAR-93	0	82	82	82
MIG-29 Fulcrum-P-GAK	0	0	6	66
<b>Homeland air defense</b>				
MIG-15 Fagot	8	0	0	0
MIG-21 Fishbed C/D/E/F/ H/I/J/L/N	108	661	361	186
MIG-23 Flogger B/G	198	526	546	531
MIG-29 Fulcrum	0	26	260	400
F-P-III (CAF)	0	0	0	12
<b>Counterair</b>				
MIG-21 Fishbed C/E/D/F/ H/I/J/L/N	275	282	255	148
MIG-17 Fresco	12	0	0	0
MIG-23 Flogger B/G	0	14	54	94
MIG-29 Fulcrum	0	0	0	45
<b>Reconnaissance</b>				
IL-28 Beagle	18	8	0	0
Crate/Curl/Clank	26	23	23	23
MIG-15 Fagot	28	0	0	0
MIG-21 Fishbed C/E/H	79	48	48	32
SU-7/17/20/22 Fitter C/H/I/K	2	75	81	79
MIG-25 Foxbat	2	2	2	2
MIG-29 Fulcrum-P-Rec	0	0	0	15
Maya	12	12	12	12
L-39 Albatross	0	24	24	24
IAR-93	0	10	18	18

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**Table D-24**  
Soviet Strategic Aviation: Total

Aircraft	1985	1990	1995	2000
<b>Strike</b>				
TU-16 Badger A/C	187	47 (140) *	0 (15)	0
TU-22 Blinder A/B/D	90	90 (134)	40 (130)	0
TU-22M Backfire	122	200 (205)	270 (250)	295 (250)
New medium bomber	0	0	0 (10)	2 (100)
SU-24 Fencer	450	540 (450)	450 (300)	210 (0)
New light bomber	0	0	90 (180)	330 (480)
<b>Fighter</b>				
MIG-21 Fishbed	130	0	0	0
MIG-23 Flogger B/G	130	40 (0)	0	0
SU-15 Flagon	0	32	0	0
SU-27 Flanker	0	150 (168)	270 (216)	270 (216)
<b>Support</b>				
TU-16 Badger	160	110 (144)	82 (60)	42 (0)
TU-22 Blinder C	47	47 (15)	47 (15)	47 (0)
YAK-28 Brewer D/E	48	12 (0)	0	0
SU-24 Fencer	16	144 (85)	168 (85)	168 (85)
MIG-25 Foxbat B/D	36	48 (30)	36 (30)	36 (30)
Backfire	0	0 (7)	0 (20)	26 (20)

\* Other projections are in parentheses.

**Table D-25**  
Soviet Strategic Aviation: Opposite NATO

Aircraft	1985	1990	1995	2000
<b>Strike</b>				
TU-16 Badger A/C	130	47 (70) *	0 (15)	0
TU-22 Blinder A/B/D	90	90 (134)	40 (130)	0
TU-22M Backfire	82	140 (165)	210 (190)	235 (190)
New medium bomber	0	0	0 (10)	2 (100)
SU-24 Fencer	360	360	300 (210)	150 (0)
New light bomber	0	0	60 (150)	210 (360)
<b>Fighter</b>				
MIG-21 Fishbed	130	0	0	0
MIG-23 Flogger B/G	130	40 (0)	0	0
SU-15 Flagon	0	0	0	0
SU-27 Flanker	0	150 (144)	180 (144)	180 (144)
<b>Support</b>				
TU-16 Badger	96	68 (85)	40 (60)	0
TU-22 Blinder C	47	47 (15)	47 (15)	47 (0)
YAK-28 Brewer D/E	36	0	0	0
SU-24 Fencer	16	120 (60)	120 (60)	120 (60)
MIG-25 Foxbat B/D	36	24 (44)	24 (44)	24 (44)
Backfire	0	0 (30)	0 (30)	26 (30)

\* Other projections are in parentheses.

**Table D-26**  
Soviet Military Transport Aviation (VTA) \*

Aircraft	1985	1990	1995	2000
AN-12 Cub	245	140	0 (90) <sup>b</sup>	0 (10)
AN-22 Cock	55	50	40 (10)	0
IL-76 Candid	275	365 (390)	455 (390)	460 (390)
AN-124 Condor	0	15 (25)	65 (70)	80 (75)
New medium transport <sup>c</sup>	0	0	0 (65)	0 (195)
Other transports	10	10	10	10

\* The assets of VTA could be supplemented by transport aircraft drawn from other forces and from Aeroflot assets. These aircraft, however, have not been projected, and their use would be highly scenario-dependent.

<sup>b</sup> Other projections are in parentheses.

<sup>c</sup> The same holder projects a new medium transport to replace some AN-12 Cubs and to complement other assets.

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**Table D-27**  
Soviet Helicopters: Total \*

	1985	1990	1995	2000
<b>Attack</b>	<b>1,835</b>	<b>1,985</b>	<b>2,720</b>	<b>3,390</b>
MI-8 Hip	385	425	485	500
MI-24 Hind	1,250	1,400	1,240	780
MI-28 Havoc	0	100	595	1,210
Hokum	0	60	280	580
Medium tilt-rotor	0	0	120	320
<b>Transport/special-purpose</b>	<b>1,835</b>	<b>2,015</b>	<b>2,335</b>	<b>2,455</b>
MI-8 Hip	1,365	1,555	1,675	1,590
MI-6 Hook	440	330	280	190
MI-26 Halo	30	160	340	435
Heavy tilt-rotor	0	0	40	240

\* Rounded to nearest five.

**Table D-28**  
Soviet Helicopters: Western TMO

	1985	1990	1995	2000
<b>Attack</b>	<b>849</b>	<b>954</b>	<b>1,174</b>	<b>1,508</b>
MI-8 Hip	208	208	208	208
MI-24 Hind	641	606	270	20
MI-28 Havoc	0	80	476	780
Hokum	0	60	120	280
Medium tilt-rotor	0	0	100	220
<b>Transport/special-purpose</b>	<b>528</b>	<b>683</b>	<b>783</b>	<b>852</b>
MI-8 Hip	418	530	550	459
MI-6 Hook	83	42	42	42
MI-26 Halo	27	111	151	151
Heavy tilt-rotor	0	0	40	200

**Table D-29**  
Soviet Helicopters: Southwestern TMO

	1985	1990	1995	2000
<b>Attack</b>	<b>80</b>	<b>168</b>	<b>302</b>	<b>360</b>
MI-8 Hip	20	40	60	60
MI-24 Hind	60	108	162	132
MI-28 Havoc	0	20	20	68
Hokum	0	0	40	80
Medium tilt-rotor	0	0	20	20
<b>Transport/special-purpose</b>	<b>195</b>	<b>210</b>	<b>270</b>	<b>264</b>
MI-8 Hip	131	152	188	188
MI-6 Hook	64	42	42	20
MI-26 Halo	0	16	40	56

**Table D-30**  
Soviet Helicopters: Northwestern TMO

	1985	1990	1995	2000
<b>Attack</b>	<b>12</b>	<b>90</b>	<b>124</b>	<b>132</b>
MI-8 Hip	0	20	20	20
MI-24 Hind	12	70	84	72
MI-28 Havoc	0	0	0	20
Hokum	0	0	20	20
<b>Transport/special-purpose</b>	<b>81</b>	<b>84</b>	<b>94</b>	<b>94</b>
MI-8 Hip	57	64	70	70
MI-6 Hook	24	4	4	4
MI-26 Halo	0	16	20	20

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**Table D-31**  
**Soviet Helicopters: Southern TMO**

	1985	1990	1995	2000
<b>Attack</b>	<b>203</b>	<b>253</b>	<b>419</b>	<b>569</b>
MI-8 Hip	32	32	52	72
MI-24 Hind	171	223	287	325
MI-28 Havoc	0	0	20	52
Hokum	0	0	60	100
Medium tilt-rotor	0	0	0	20
<b>Transport/special-purpose</b>	<b>446</b>	<b>472</b>	<b>472</b>	<b>510</b>
MI-8 Hip	323	349	349	373
MI-6 Hook	123	123	71	37
MI-26 Halo	0	0	52	100

**Table D-32**  
**Soviet Helicopters: Far Eastern TMO**

	1985	1990	1995	2000
<b>Attack</b>	<b>456</b>	<b>480</b>	<b>651</b>	<b>746</b>
MI-8 Hip	126	126	146	140
MI-24 Hind	330	354	385	154
MI-28 Havoc	0	0	80	292
Hokum	0	0	40	100
Medium tilt-rotor	0	0	0	60
<b>Transport/special-purpose</b>	<b>450</b>	<b>458</b>	<b>538</b>	<b>558</b>
MI-8 Hip	336	352	412	382
MI-6 Hook	114	90	90	64
MI-26 Halo	0	16	56	72
Heavy tilt-rotor	0	0	0	40

**Table D-33**  
**Soviet Helicopters: Strategic Reserve**

	1985	1990	1995	2000
<b>Attack</b>	<b>35</b>	<b>41</b>	<b>53</b>	<b>77</b>
MI-24 Hind	35	41	53	77
<b>Transport/special-purpose</b>	<b>136</b>	<b>140</b>	<b>156</b>	<b>176</b>
MI-8 Hip	102	106	106	118
MI-6 Hook	31	31	31	23
MI-26 Halo	3	3	19	35

**Table D-34**  
**Non-Soviet Warsaw Pact Helicopters**

	1985	1990	1995	2000
<b>Attack</b>	<b>236</b>	<b>339</b>	<b>480</b>	<b>564</b>
MI-8 Hip	78	92	92	92
MI-24 Hind	128	153	246	330
Puma Hc-1	38	44	68	68
Alouette III	42	50	74	74
<b>Transport/special-purpose</b>	<b>497</b>	<b>591</b>	<b>769</b>	<b>767</b>
MI-1 Hare	65	41	6	0
MI-2 Hoplite	206	225	270	279
Sokol	0	8	49	60
MI-4 Hound	93	76	42	24
MI-6 Hook	0	10	30	30
MI-8 Hip	103	198	314	308
MI-17 Hip	6	16	28	36
KA-26 Hoodlum	24	12	0	0
KA-126 light utility	0	5	30	30



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**Table D-35**  
**Baltic Fleet: Amphibious Ships and Craft**

	1985	1990	1995	2000 *
Alligator LST	2	1 (2) <sup>b</sup>	1 (2)	0
Polnocny	16	12 (9)	4 (2)	0
Ropucha LST	4	4 (6)	3 (6)	1
Ivan Rogov LPD	1	1 (0)	1 (0)	1
LPD-P-II (Ivan Rogov follow-on)	0	0 (1)	0 (1)	0
Aist LCUA	11	11 (10)	11 (10)	10
New LPH/LHA	0	1	1	1
New LST-1	0	2	4	4
New LST-2	0	0	0	2

\* One view does not project individual fleet totals for the year 2000.

<sup>b</sup> Figures in parentheses indicate that view's projections. All other figures are agreed upon.

**Table D-36**  
**Baltic Sea Fleet Air Force**

	1985	1990	1995	2000 *
<b>Bombers</b>				
TU-22M Backfire	40	64 (54) <sup>b</sup>	92 (60)	122
TU-22 Blinder	17	9 (22)	0	0
TU-16 Badger A/C/G	36	11 (19)	0 (3)	0

\* One view does not project individual fleet totals for the year 2000.

<sup>b</sup> Figures in parentheses indicate that view's projections. All other figures are agreed upon.

**Table D-37**  
**Baltic Sea Fleet Air Force**

	1985	1990	1995	2000 *
<b>Fighters</b>				
SU-17 Fitter	38	50 (20) <sup>b</sup>	25 (0)	0
CAS replacement (possibly the Flogger)	0	30 (20)	50 (40)	75

\* One view does not project individual fleet totals for the year 2000.

<sup>b</sup> Figures in parentheses indicate that view's projections. All other figures are agreed upon.

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**Table D-38**  
Northern Fleet: Amphibious Ships and Craft

	1985	1990	1995	2000 <sup>a</sup>
Alligator LST	2	1 (2) <sup>b</sup>	1 (2)	0
Polnocny	6	4 (3)	1 (0)	0
Ropucha LST	5	5 (9)	3 (9)	0
Ivan Rogov LPD	0	4 (0)	3 (0)	0
Aist LCUA	0	0 (8)	0 (8)	0
New LST-1	0	1	2 (4)	2

<sup>a</sup> One view does not project individual fleet totals for the year 2000.

<sup>b</sup> Figures in parentheses indicate that view's projections. All other figures are agreed upon.

**Table D-39**  
Northern Fleet Air Force

	1985	1990	1995	2000 <sup>a</sup>
<b>Bombers</b>				
TU-22M Backfire	0	0	0 (30) <sup>b</sup>	0
TU-16 Badger A/C/G	73	67 (57)	67 (32)	56

<sup>a</sup> One view does not project individual fleet totals for the year 2000.

<sup>b</sup> Figures in parentheses indicate that view's projections. All other figures are agreed upon.

**Table D-40**  
Northern Fleet Air Force

	1985	1990	1995	2000 <sup>a</sup>
<b>Fighters</b>				
CAS replacement (possibly the Flogger)	0	0 (40) <sup>b</sup>	0 (40)	0
YAK-38 Forger A	21	0 (10)	0	0
New Forger Mod	0	0 (10)	0 (10)	0
New V/STOL	0	12 (0)	24 (0)	36
CTOL fighter	0	24 (20)	48 (90)	48

<sup>a</sup> One view does not project individual fleet totals for the year 2000.

<sup>b</sup> Figures in parentheses indicate that view's projections. All other figures are agreed upon.

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**Table D-41**  
**Black Sea Fleet: Amphibious Ships and Craft**

	1985	1990	1995	2000 <sup>a</sup>
Alligator LST	5	5	2 (5) <sup>b</sup>	0
Polnocny	6	4 (9)	1 (2)	0
Aist LCUA	6	6 (10)	6 (10)	6
New LST-1	0	2 (1)	4	4
New LST-2	0	0	0	2

<sup>a</sup> One view does not project individual fleet totals for the year 2000.

<sup>b</sup> Figures in parentheses indicate that view's projections. All other figures are agreed upon.

**Table D-42**  
**Black Sea Fleet Air Force**

	1985	1990	1995	2000 <sup>a</sup>
<b>Bombers</b>				
TU-22M Backfire <sup>b</sup>	20	55 (72) <sup>c</sup>	70 (75)	85
Backfire follow-on	0	0	0 (5)	0
TU-22 Blinder A	20	10 (3)	0	0
TU-16 Badger A/C/G	62	46 (30)	30 (5)	16

<sup>a</sup> One view does not project individual fleet totals for the year 2000.

<sup>b</sup> Does not include a new regiment forming at a Soviet Naval Aviation training facility on the Black Sea.

<sup>c</sup> Figures in parentheses indicate that view's projections. All other figures are agreed upon.

**Table D-43**  
**Black Sea Fleet Air Force**

	1985	1990	1995	2000 <sup>a</sup>
<b>Fighters</b>				
SU-17 Fitter	0	0	0 (20) <sup>b</sup>	0
CAS replacement (possibly the Flogger)	0	0	0 (20)	0
YAK-38 Forger A	0	20 (10)	0	0
New Forger Mod	0	0 (15)	0 (15)	0
New V/STOL	0	4 (0)	24 (15)	24
CTOL fighter	0	8 (20)	8 (25)	8

<sup>a</sup> One view does not project individual fleet totals for the year 2000.

<sup>b</sup> Figures in parentheses indicate that view's projections. All other figures are agreed upon.

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**Table D-44**  
**Pacific Ocean Fleet: Amphibious Ships and Craft**

	1985	1990	1995	2000 <sup>a</sup>
Alligator LST	5	4 (5) <sup>b</sup>	1 (5)	0
Polnocny	4	3	0	0
Ropucha LST	8	8 (12)	6 (12)	2
Ivan Rogov LPD	1	1 (2)	1 (2)	1
MP-4 LSM	2	0	0	0
LPD-P-II (Ivan Rogov follow-on)	0	0	0 (1)	0
New LPH/LHA	0	0	0 (1)	0
New LST-1	0	2	2 (4)	2

<sup>a</sup> One view does not project individual fleet totals for the year 2000.

<sup>b</sup> Figures in parentheses indicate that view's projections. All other figures are agreed upon.



**Table D-45**  
**Pacific Ocean Fleet Air Force**

	1985	1990	1995	2000 <sup>a</sup>
<b>Bombers</b>				
TU-22M Backfire	40	64	92 (60) <sup>b</sup>	122
TU-16 Badger A/C/G	67	40	13 (21)	13

<sup>a</sup> One view does not project individual fleet totals for the year 2000.

<sup>b</sup> Figures in parentheses indicate that view's projections. All other figures are agreed upon.



**Table D-46**  
**Pacific Ocean Fleet Air Force**

	1985	1990	1995	2000 <sup>a</sup>
<b>Fighters</b>				
SU-17 Fitter	35	50 (40) <sup>b</sup>	25 (0)	0
CAS replacement (possibly the Flogger)	0	30 (0)	50 (40)	75
YAK-38 Forger A	41	20 (30)	0 (10)	0
New Forger Mod	0	0 (15)	0 (55)	0
New V/STOL	0	24 (0)	36 (25)	36
New CTOL fighter	0	0	24 (0)	48

<sup>a</sup> One view does not project individual fleet totals for the year 2000.

<sup>b</sup> Figures in parentheses indicate that view's projections. All other figures are agreed upon.



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